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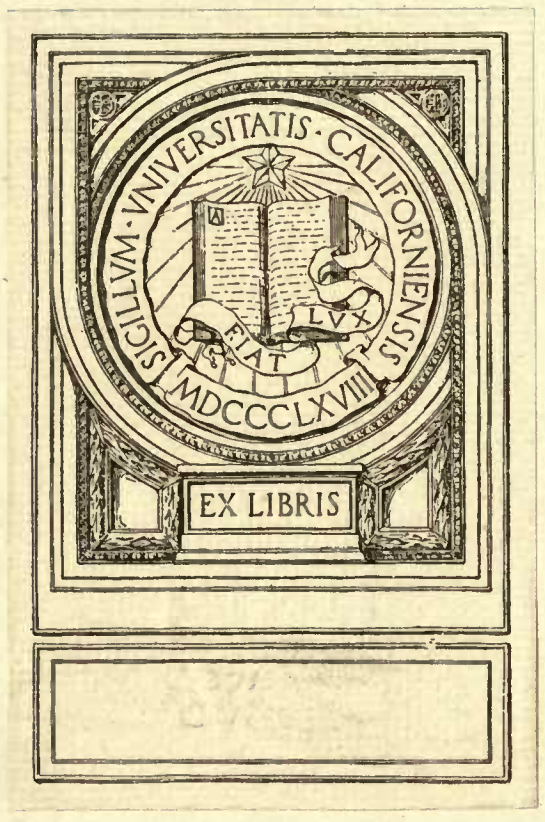
REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C–S.	N.P.D. 1855·0.	C–S.	Notes.
			h m s		° ′ ″		
2821	10·3	3	18. 42. 46·5	s	8. 45. 35·6	″	
2	6·0*	3	43. 11·3	+0·6	6. 56. 30·0	+0·3	
3	10·3	3	43. 41·1		7. 3. 33·1		
4	9·7	3	43. 48·2	+2·2	5. 49. 22·9	−1·9	
5	10·3	3	44. 0·6		5. 54. 53·0		
6	10·3	3	44. 18·8		8. 37. 0·0		
7	10·3	3	44. 48·4		7. 59. 48·6		
8	10·0	3	45. 13·6		4. 59. 41·7		
9	10·3	3	45. 46·2		8. 24. 39·3		
2830	10·6	3	18. 46. 16·9		4. 55. 57·0		
2831	10·3	3	18. 46. 25·7		7. 44. 32·5		
2	10·3	3	46. 47·6		4. 26. 5·3		
3	10·3	3	47. 36·6		7. 50. 6·4		
4	10·3	3	48. 0·2		5. 47. 58·5		
5	10·5	3	48. 17·4		6. 11. 0·9		
6	10·3	3	48. 25·5		6. 27. 33·4		
7	9·9	4	48. 26·6		2. 42. 52·1		
8	9·7	3	48. 45·9		8. 0. 19·2		
9	10·1	3	48. 49·7		7. 25. 50·3		
2840	9·7	3	18. 49. 6·0		8. 13. 32·1		
2841	10·0	3	18. 49. 14·0		8. 47. 32·3		
2	10·3	3	49. 30·7		5. 54. 9·1		
3	10·3	3	49. 43·4		4. 33. 7·5		
4	10·3	3	50. 29·4		7. 1. 45·3		
5	10·3	3	50. 58·3		7. 46. 20·8		
6	10·3	3	51. 10·2		4. 37. 52·8		
7	10·1	3	51. 13·6		8. 50. 54·3		
8	10·2	5	51. 15·1		1. 8. 12·4		
9	9·7	3	52. 0·8		5. 37. 54·3		
2850	10·5	3	18. 52. 18·8		7. 45. 20·7		
2851	10·3	3	18. 52. 48·6		4. 22. 18·8		
2	9·6	5	52. 49·6	−0·5	3. 54. 27·2	−3·6	
3	10·0	3	52. 53·7		7. 50. 44·1		
4	9·7	3	54. 25·1		8. 36. 19·5		
5	10·0	3	54. 32·5		5. 53. 49·3		
6	10·3	3	54. 55·5		7. 45. 43·4		
7	10·3	3	54. 57·9		5. 51. 22·4		
8	9·7	3	55. 7·4		7. 28. 14·5		
9	9·7	3	55. 15·1	+1·1	5. 31. 16·0	−3·5	
2860	10·0	3	18. 55. 29·4		6. 54. 22·3		
2861	10·3	4	18. 56. 48·2		3. 33. 42·3		
2	9·7	3	57. 11·1		5. 57. 4·7		
3	9·1	3	57. 37·5	+1·5	8. 57. 36·7	−1·6	
4	10·3	3	57. 57·0		6. 37. 15·9		
5	9·1†	3	58. 1·6	+0·1	7. 55. 24·3	−2·8	
6	9·7	5	58. 10·4		1. 4. 4·5		
7	10·3	3	58. 41·5		4. 25. 12·6		
8	10·0	3	58. 49·6		8. 25. 49·6		
9	10·3	4	58. 51·8		2. 23. 6·9		
2870	9·2†	3	18. 58. 58·6	+0·9	6. 51. 39·9	+1·9	
2871	10·2	4	18. 59. 23·4		3. 16. 8·6		
2	10·3	3	59. 26·3		4. 14. 56·3		N. p. of two.
3	10·3	4	59. 31·9		3. 28. 45·2		
4	10·3	3	59. 55·4		4. 55. 31·4		
5	10·3	3	59. 59·7		7. 59. 14·9		
6	9·7	3	19. 0. 9·9		6. 31. 22·6		
7	10·3	3	0. 17·0		7. 10. 39·5		
8	10·3	3	0. 26·0		8. 28. 29·3		
9	10·3	3	0. 52·4		4. 5. 53·4		
2880	10·3	3	19. 0. 59·0		6. 2. 26·6		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2881	9·6	4	19. 1. 14·5	+2·1	3. 51. 45·4	−2·8	
2	7·0†	6	1. 36·1	−0·1	3. 28. 45·7	−0·4	
3	10·3	4	1. 43·0		3. 44. 7·0		
4	9·7	3	2. 2·3		6. 38. 50·1		
5	10·3	3	2. 24·7		3. 15. 27·0		
6	10·1	3	2. 33·1		5. 16. 37·3		
7	9·7	3	3. 36·2		7. 28. 44·9		
8	10·3	3	4. 57·1		6. 29. 38·7		
9	10·3	4	5. 15·7		1. 27. 18·7		
2890	10·3	3	19. 5. 40·9		7. 27. 30·4		
2891	10·1	3	19. 6. 19·1		8. 25. 36·9		
2	10·3	3	7. 23·8		7. 0. 52·7		
3	10·5	3	7. 45·0		8. 2. 0·7		
4	10·3	3	8. 9·0		7. 40. 54·5		
5	9·5	3	8. 35·8	+1·6	5. 39. 4·2	+0·7	
6	10·3	3	8. 38·5		7. 31. 24·2		
7	10·1	5	8. 40·3		7. 28. 42·1		
8	10·0	3	8. 46·0		6. 41. 15·7		
9	10·3	3	9. 8·6		4. 38. 48·6		
2900	10·3	1	19. 9. 14·2		7. 29. 46·4		
2901	10·2	5	19. 9. 15·8		3. 31. 46·4		
2	10·1	3	9. 21·0		5. 53. 40·3		
3	6·9†	3	9. 22·7	+0·7	7. 50. 43·7	+0·6	
4	10·3	3	9. 29·0		5. 16. 40·4		
5	10·1	3	10. 5·2		7. 7. 57·8		There is a fainter star to the North.
6	9·5	6	10. 12·4	+0·3	3. 48. 53·1	−2·3	
7	9·7	3	10. 22·4	+4·0	4. 34. 52·2	−0·3	
8	6·9†	3	10. 27·5	+0·9	6. 18. 8·0	+1·0	
9	10·3	4	12. 3·0		4. 5. 30·3		
2910	10·3	3	19. 12. 12·3		7. 56. 56·3		
2911	9·7	3	19. 12. 21·2		8. 31. 16·3		
2	10·3	3	12. 51·9		5. 52. 31·0		
3	9·7	3	14. 5·3		8. 26. 2·2		
4	10·3	3	14. 21·3		5. 20. 4·4		
5	10·3	3	14. 30·7		6. 29. 24·7		
6	10·3	3	15. 31·3		7. 0. 31·7		
7	10·3	3	15. 53·1		8. 1. 38·4		
8	10·3	3	15. 59·0		4. 53. 54·9		
9	10·3	3	16. 25·5		7. 58. 50·6		
2920	7·8†	3	19. 16. 35·0	+0·7	7. 33. 56·7	−3·3	
2921	9·7	3	19. 16. 39·1		8. 53. 4·7		
2	10·4	4	16. 39·4		2. 22. 38·0		
3	9·2†	3	17. 20·3	+1·5	8. 35. 13·5	−1·6	
4	10·3	3	19. 13·6		4. 52. 33·7		
5	10·3	3	19. 27·1		7. 47. 3·4		
6	10·0	3	20. 19·6		4. 36. 26·4		
7	10·2	5	20. 31·5		2. 25. 16·9		
8	10·3	4	21. 3·4		3. 21. 55·5		
9	9·7	3	21. 36·8		4. 21. 31·6		
2930	10·1	3	19. 21. 53·2		6. 24. 21·0		
2931	9·7	3	19. 22. 13·1		5. 0. 32·7		
2	10·2	4	22. 38·7		3. 16. 36·4		
3	9·7	3	23. 15·5		8. 23. 8·7		
4	8·9†	3	24. 2·3	+0·6	8. 59. 41·1	+0·9	
5	9·7	3	24. 10·5		6. 25. 8·0		
6	9·7	4	24. 13·8		1. 56. 39·7		
7	9·7	3	24. 54·7		8. 2. 54·5		
8	10·6	3	25. 14·0		5. 2. 42·8		
9	10·3	3	25. 17·3		5. 1. 12·2		
2940	9·7	3	19. 25. 21·5		7. 43. 52·2		A fainter star s. f.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A CATALOGUE

OF

3735 CIRCUMPOLAR STARS

OBSERVED AT REDHILL

In the Years 1854, 1855, and 1856,

AND

REDUCED TO MEAN POSITIONS

FOR

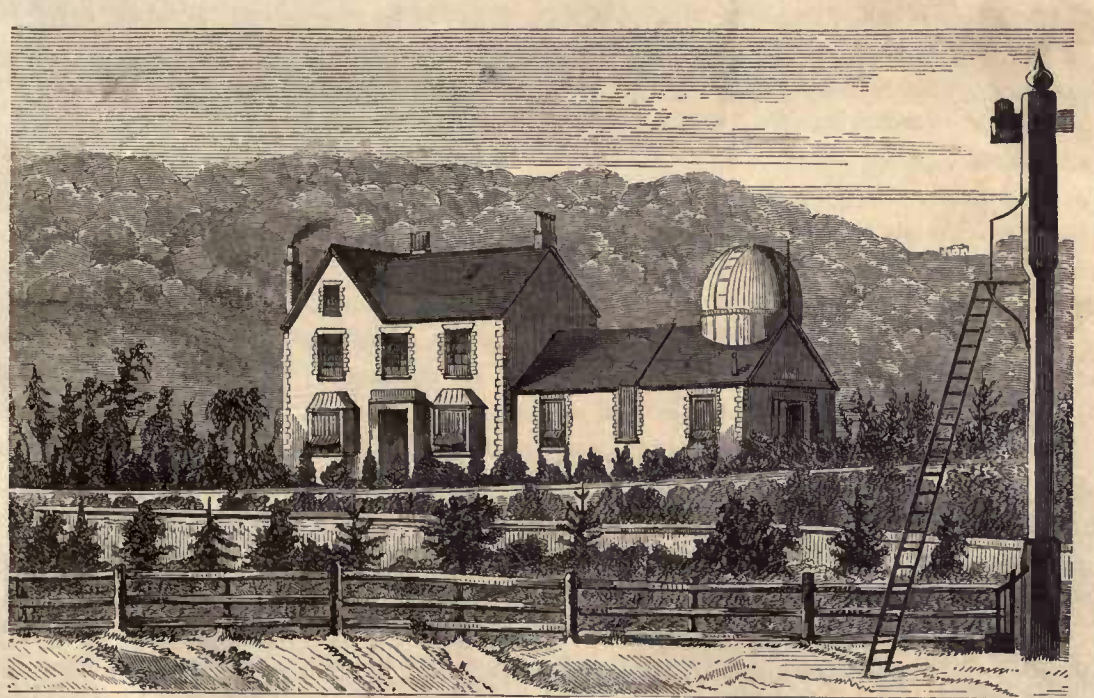
1855·0,

BY RICHARD CHRISTOPHER CARRINGTON,

(FELLOW AND SECRETARY OF THE ROYAL ASTRONOMICAL SOCIETY OF LONDON.)

PRINTED AT THE PUBLIC EXPENSE

BY ORDER OF THE LORDS COMMISSIONERS OF THE ADMIRALTY.



Redhill Observatory from the South-East.

LONDON:

PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,

PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY;

AND

SOLD BY LONGMAN, BROWN, GREEN, AND LONGMANS.

1857.

QB36
C37

INTRODUCTION.

As the following Catalogue of Stars is the first contribution to astronomy which I have been able to make as a private observer, I am desirous to prefix to it a short explanation of the circumstances which led me to undertake it.

Educated originally with a view to holy orders, more by the desire of my father than from any distinct tendency of my own, the tenour of my mathematical studies at the University of Cambridge, acting on mechanical propensities to which I had always been addicted, gradually made it clear to me that I was more naturally adapted for the pursuit of some physical science involving observation and mechanical ingenuity, than for the public exposition of the doctrines of a body with which I have ever had little sympathy, much as I esteem individuals belonging to it. The lectures on Practical Astronomy of my friend Professor Challis, which I attended as a student, gave the final impulse which led me, on leaving the University, to prepare myself definitely for the manipulation of astronomical instruments, and to acquaint myself by degrees with the current state of the science which I had been thus drawn towards. The consent of my father to this preference of my own to the calling which it was his original desire to see me enter upon was, I am bound to say, given without opposition; and as my probable future means promised me the opportunity of pursuing my selected occupation on my private resources, it was principally with the object of acquiring experience, and of avoiding wasteful and injudicious expense, that I applied for, and for nearly three years held, the appointment of observer in the University of Durham. Among the works which I had frequent occasion to refer to while residing there, none charmed me so much by the breadth of their design and the excellence of their execution as the zones of Professor Bessel continued by his former colleague Dr. Argelander. It appeared to me that the method followed was preeminently the suitable one for recording at once in large quantity and good quality the positions of stars, with the least facility of introduction of the most troublesome sources of error, and with the greatest advantage for the future determination of secular motions. Looking round on the practice of existing observatories engaged in this department of work, it appeared to me further that there was not sufficient regard paid to economy, and that attention required again to be called to the method of observing and reducing stars in zones of limited breadth, as one which, while offering equal precision to any other, produced quantitative results of three or four times the amount for the same cost of time and labour. Being unaware of the labours of Professor Schwerd of Speyer, whose observations, from being unreduced and only partially published, were hardly known in England, the northern heavens, as known to me, were surveyed with fair uniformity by Lalande, Bessel, and Argelander, to the 80th degree of declination. I said to myself, therefore, 'I will make it my first task at the same time to close this previous survey by extending it to the pole, and commence a new one

on an advanced plan, by employing a meridian instrument of power sufficient to include stars of the 10th magnitude; and I will establish the rule that of the class of stars included in my plan, none shall be excepted from sufficiently repeated observation.' This task I would willingly have taken up at Durham, or postponed for a time, had there been a reasonable probability of my being supplied there with an instrument of satisfactory performance and capability, but after a somewhat harassing tenure of office and a final effort to obtain a better instrument than any placed at my disposal, I took leave of a locality in which I had formed many valued friendships to resume my original project.

§ 2. *Outline of Proceedings.*

The first three months which my resignation placed at my own disposal were spent in unavailing search for a suitable spot on which to erect an observatory, and it was not till early in the month of June 1852, that I met with the plot which I now occupy as a tenant on the Gatton estate, and on which in the following six months I built the house and observatory figured in the title-page. By the following month of February, the dome and building were sufficiently advanced for me to put up an Equatorial of 4·5 inches aperture, constructed by Simms; and in July 1853 I was able to place in position the transit circle of 5·0 inches aperture by the same maker, with which the positions of this Catalogue were obtained.

The plan pursued in its formation, and which I have found no reason to regret, has been:—

1. Rough observations with the Equatorial in broad zones of about 1000 stars, as a basis for an improved map of the region comprised within 9° of the North Pole; the reduction to 1855 depending on about 90 previously known stars:

2. Laying down these rough positions to scale, and filling in the stars previously omitted by estimation, intentionally including stars somewhat exceeding the limit of magnitude of the final Catalogue:

3. The construction, from the maps thus formed, of a provisional Catalogue arranged in order of Right Ascension, and containing about 4400 stars:

4. Observation on the meridian in three subzones, each forming a full year's work, of such of the stars in the provisional Catalogue as were not too faint to be seen under feeble illumination. For stars within 45′ of the Pole, the rule was 5 or 6 observations; for stars from 0° 45′ to 4° polar distance, 4 or 5 observations; and between the parallels 4° to 7° and 7° to 9° polar distance 3 observations:

5. The reduction to 1855·0 and assembling of the individual results of the three subzones into a final Catalogue of mean positions, and the permanent engraving on copper of a corresponding chart in nine sections of convenient size.

This plan has been undeviatingly adhered to throughout; and now, at its close, it is my pleasing duty to acknowledge the valuable services of my friend and assistant Mr. George Harvey Simmonds, who has shared nearly all my labour in observing, and has borne about three fifths of the more serious labour of computation. In him I could always confidently depend on finding the quality of the work of his department of observation uniform and good, and on a steadiness in daily reductions, with their minute accuracy, without which the prosecution of such a work would have been doubly oppressive.

Another feeling rises in the breast, and one of thankfulness, that in an undertaking requiring uninterrupted labour, no intermission from sickness of a serious kind occurred to either myself or assistant, during a period of four years.

§ 3. *Of the Building and Situation.*

The hill (formerly known by the local name of Furze Hill), on which the observatory stands, is abrupt towards the North, East, and South, its continuation westwards being occupied by the houses of two neighbours. It is situated in a valley bounded northwards by high ground (the termination of the chalk stratum), and is protected to a great extent from the violence of South-

west gales by the higher ground of Redhill Common. The elements of the position of the observatory I have found with sufficient accuracy to be

Astronomical latitude - -	51° 14′ 25″·3 North.
Longitude from Greenwich - -	0m 41s·25 West.
Height above mean sea-level about -	325 feet.

The soil of the hill is sand, very loose on the surface, but below of a consistency approaching that of stone, and requiring the use of the pick-axe and blasting powder in its removal. The surface being very uneven, I commenced by cutting away the top of the hill to a depth of four feet to obtain a solid and sufficiently large level area for the foundations; and, as was expected, no part of the building has subsequently shown signs of subsidence. The erection of the observatory was personally and minutely overlooked by myself throughout.

Referring to the woodcut in the title page, it will be rightly suspected that the low part of the building to the east of the dwelling house is the portion devoted to the instruments and observatory offices. This portion is divided into three nearly equal compartments, the first (next the house) being the library and computing room; the second, or central one, the transit-room (25 × 14 feet); and the third, beneath the dome, containing two smaller rooms (14 × 8 feet) with an intermediate passage leading to the east entrance door. These two rooms at the east end of the building were Mr. Simmonds's private apartments, the passage between them containing the staircase leading into the dome, and two brick walls united at the top by massive girders for the support of the Equatorial. The east and west partition-walls of the transit-room are of 9-inches brickwork carried up to the ridge of the roof, and interrupted only by two doorways, one leading to the computing room and one to the east passage. The north and south walls are of 14-inches masonry, and contain no windows; the roof boarded with 1·25-inch deals, covered with felt, and slates laid on battens. The shutter openings are two feet in the clear. The floor-joists take the entire span of 14 feet without intermediate dwarf walls, and are trimmed round the piers without contact. In the excavation of the foundation of the transit-piers everything loose was removed to a depth of about 5 feet, and the space filled in with a mass of stone and concrete well rammed on which several courses of brick were laid, the last course being continued only under the two stone piers (as shown in the woodcut which follows). On this broken course a York flagstone of 5 inches thickness, in one piece, was well bedded, and on this the piers for the instrument were built of large blocks of dressed Caen stone. The work was done for me by the master mason who contracted for the whole building, and has given me entire satisfaction. The piers of the two collimating telescopes were similarly founded.

The dome commands an uninterrupted horizon to about 87° of Zenith Distance, excepting towards the West, where a portion of its view is intercepted by the house. The horizon of the Transit is uninterrupted. There are houses to the North and South within 200 yards and a rising town South-eastwards, but I have never been sensible of the annoyance of smoke excepting on a few occasions when some neighbour caused a nuisance by burning weeds for a short time. The main line of the London and Brighton railway passes southwards at a distance of about one-third of a mile to the East, and the Guildford branch of the Dover line passes westwards at somewhat less distance to the South; but from neither have I *with the meridian instrument* experienced sensible vibration of the soil.

§ 4. *Of the Instruments employed.*

1. Of the Equatorial very little need be said, as the results obtained with it were but preparatory to those here published. Its object-glass is of 4·5 inches aperture, and 52 inches focal length. The power usually applied was 25, with which there was an available field of more than a degree and a half diameter. It is mounted in the German fashion in a dome of 15 feet diameter, designed for a larger instrument, and is provided with an apparatus with which, when the telescope is fixed in R.A., an extent of 10° in N.P.D. may be swept over, and differences read off rapidly to 0′·5 with a divided arc and vernier. In the execution of the first stage of the work,

lift the corresponding end of the axis, which is equivalent to saying that the residual pressure on each bearing was about 15 pounds.

3. Of the Collimating Telescopes. Two independent piers, and a fixed telescope on each, were provided for the purpose of measuring the important error of collimation, or rather of keeping it constantly of negligible amount. The two telescopes thus designed were each of 2·75 inches aperture and 33 inches focal length, placed horizontally on a level with the centre of the cube of the transit-circle, and turned the north one southwards, and the south one northwards. The description of those used at Greenwich and of their application will sufficiently apply to them, and save the necessity of a minute description. The webs at their foci were of the Astronomer Royal's pattern, the north one adjustable by screw vertically, and the south one horizontally. During the first year readings were taken at weekly intervals, after which the accumulated evidence of stability justified less frequent examinations, and the readings were taken at monthly intervals. I do not think it necessary to print a table of the residual errors as they were in all cases much under 1″ of arc, and consequently of an amount which might without sensible effect on the deduced position of a polar star be merged in the meridian error as found from star observations.

Use was made of the Collimators to ascertain the main flexures of the transit-circle. The lines joining the respective optical centres and selected points in their webs being first adjusted so as to be precisely 180° distant in the meridian, and circle-readings of the transit-circle being taken when its telescope was alternately directed to each in the usual manner, it was found by trials made on two occasions, which produced identical results, that there was an excess of drop of the object-glass over the wire-frame of the transit-circle, when in the horizontal position, of 0″·60. A table was accordingly constructed of the values of

0″·60. sin. zenith distance,

for the correction of circle-readings for this deflection, in general use; although it is only necessary here to state its value for the purpose of showing that, throughout the range of readings taken for the results of this work, its application might be neglected as never exceeding differentially a tenth of a second.

In the next place the Collimators were used as fixed marks for the purpose of ascertaining the flexure of the cones of the telescope for definite arbitrarily imposed strains. In this case, after directing the telescope to the south Collimator, a pulley was mounted on a firm temporary support, in the first place East, and in the second West, of its eye-end, and weights of 2, 4, and 7 pounds were suspended from a string passing over the pulley, and looped round the eye-end of the cone of the telescope. Readings of the horizontal screw of the eyepiece were taken of coincidence of the central wire with the collimator-mark before, during, and after the application of the weights, and a similar test was applied to the cone carrying the object-glass. Also in a similar manner, by suspending the same weights directly from the cones, the vertical flexures were measured; the results being the same for the two cones and for the two directions and the flexures being in the direct proportion of the weights applied so far as it was considered prudent to apply the test. The angular flexures were as nearly as possible at the rate of 0″·5 per pound, thus giving reason to conclude that when the two ends of the telescope were deflected by the weights of their own parts alone, the actual drops were not less than 5″ to 8″, although, as before stated, the excess of drop of the object-glass over the wire-frame amounted to 0″·60 only. This difference is satisfactorily accounted for by the circumstance of the cone which carries the object-glass being about an inch and a half longer than the one which carries the wire-frame, and might evidently be mechanically annihilated in another instrument. I should infer that the cones of the telescope are hardly as stiff as is desirable, and that a material of greater rigidity than the hammered brass they are composed of would have been preferable. I do not believe, however, that any evil effect has resulted therefrom.

A somewhat similar test of strength was applied to the horizontal axis, by directing the telescope vertically downwards to a trough of mercury, and viewing the wire as seen directly and by reflection with a Bohnenberger eyepiece. In this case the reading of coincidence of the central wire with its reflected image was first obtained, and then weights of 2, 4, and 7 pounds gently applied alternately in excess to the counterpoise-weights, and the displacement of the image observed. The flexures were found to be just sensible, though small, the variation of the coincidence-reading being at the rate of 0″·06 per pound applied to either counterpoise,

which is equivalent to a variation of effective level-error of 0″·015 for every additional pound strain applied to the axis at the points at which the friction-wheels meet it. I have considered the result to be one with which an observer may be satisfied, the irregularities of level-error which would result from probable irregularities of action of the counterpoises being quite negligible.

It was pleasing in all the above cases to ascertain the still more important fact of the sensibly perfect elasticity of the axis and telescope-cones, no appretiable time being required for them to regain their previous forms on removal of the tortures to which they were subjected.

4. Of the clock. The 'regulator' used for the observation of transits was made by the late Mr. Henry Appleton, of Southampton Row, Russell Square, who died before it was actually delivered to me. It has a dead-beat escapement which, though rather feeble in its tick, is still inferior in that respect only to the beat of the 'Hardy' clocks. Attempts which were made by my desire to increase the sound and sharpness were but partially successful, and need not be further alluded to. The pendulum has the mercurial compensation, and was, throughout the period to which this account refers, somewhat over-compensated and requiring occasional rectification of the bob. It is not necessary to say more than that the rate, though but moderately good, was yet quite sufficiently so for the observation of stars near to the Pole, in which the accuracy of resulting positions depends so much more on the accurate determination of the instrumental errors than on the hundredths of a second in clock-error. The sheets containing the resulting errors and rates will be found among my papers, should after-reference be found desirable, but will not be printed in this volume.

§ 5. *Of the Values of Screws, and Intervals of Wires.*

The wire-frame of the eyepiece is provided with two fine screws of nearly equal thread, one of which, when turned so that its readings increase, moves the whole system of meridian wires westwards, and the other when similarly turned moves a single wire nearly at right angles to the meridian southwards.* The first of these screws (the collimating screw) was occasionally used in referring the several meridian wires to the mark of one of the Collimators, in order to obtain proportional screw-intervals of the wires; and more frequently in the observation of level-error and of the Collimators, in order to set the wire-frame so that no sensible numerical correction should be required for the united effects of collimation-error and diurnal aberration of light. The value in seconds of arc of this screw, the head of which is divided into 100 parts, was found to be

$$1 \text{ rev.} = 32'' \cdot 03$$

from measurements of the screw-intervals of the transit-wires compared with their distances given by numerous observations of close polar stars whose apparent polar distances were known. The value of one revolution of the second of these screws, with which the bisecting wire was moved, was found to be

$$1 \text{ rev.} = 32'' \cdot 05$$

by bisecting with its wire a fixed point of one of the Collimators at different suitably varied inclinations of the telescope, and comparing its readings with the corresponding readings of the circle. For the most past this screw was kept set to its zero, bisections of stars on the meridian being commonly made by moving the whole instrument with the tangent-screw of the clamp: but when two stars, such as the components of a double star, passed the meridian nearly together, one was commonly bisected by the tangent-screw, and the second by the meridian screw of the eyepiece.

The only other screws whose values affect results, are the four screws of the micrometer microscopes, which are of nearly equal thread, and whose heads are divided each into 60 parts.

* As this description may not be perfectly clear, it may be stated that the circle-readings increase with the north polar distance, and that the screw-readings are always additive.

lift the corresponding end of the axis, which is equivalent to saying that the residual pressure on each bearing was about 15 pounds.

3. Of the Collimating Telescopes. Two independent piers, and a fixed telescope on each, were provided for the purpose of measuring the important error of collimation, or rather of keeping it constantly of negligible amount. The two telescopes thus designed were each of 2·75 inches aperture and 33 inches focal length, placed horizontally on a level with the centre of the cube of the transit-circle, and turned the north one southwards, and the south one northwards. The description of those used at Greenwich and of their application will sufficiently apply to them, and save the necessity of a minute description. The webs at their foci were of the Astronomer Royal's pattern, the north one adjustable by screw vertically, and the south one horizontally. During the first year readings were taken at weekly intervals, after which the accumulated evidence of stability justified less frequent examinations, and the readings were taken at monthly intervals. I do not think it necessary to print a table of the residual errors as they were in all cases much under 1″ of arc, and consequently of an amount which might without sensible effect on the deduced position of a polar star be merged in the meridian error as found from star observations.

Use was made of the Collimators to ascertain the main flexures of the transit-circle. The lines joining the respective optical centres and selected points in their webs being first adjusted so as to be precisely 180° distant in the meridian, and circle-readings of the transit-circle being taken when its telescope was alternately directed to each in the usual manner, it was found by trials made on two occasions, which produced identical results, that there was an excess of drop of the object-glass over the wire-frame of the transit-circle, when in the horizontal position, of 0″·60. A table was accordingly constructed of the values of

0″·60. sin. zenith distance,

for the correction of circle-readings for this deflection, in general use; although it is only necessary here to state its value for the purpose of showing that, throughout the range of readings taken for the results of this work, its application might be neglected as never exceeding differentially a tenth of a second.

In the next place the Collimators were used as fixed marks for the purpose of ascertaining the flexure of the cones of the telescope for definite arbitrarily imposed strains. In this case, after directing the telescope to the south Collimator, a pulley was mounted on a firm temporary support, in the first place East, and in the second West, of its eye-end, and weights of 2, 4, and 7 pounds were suspended from a string passing over the pulley, and looped round the eye-end of the cone of the telescope. Readings of the horizontal screw of the eyepiece were taken of coincidence of the central wire with the collimator-mark before, during, and after the application of the weights, and a similar test was applied to the cone carrying the object-glass. Also in a similar manner, by suspending the same weights directly from the cones, the vertical flexures were measured; the results being the same for the two cones and for the two directions and the flexures being in the direct proportion of the weights applied so far as it was considered prudent to apply the test. The angular flexures were as nearly as possible at the rate of 0″·5 per pound, thus giving reason to conclude that when the two ends of the telescope were deflected by the weights of their own parts alone, the actual drops were not less than 5″ to 8″, although, as before stated, the excess of drop of the object-glass over the wire-frame amounted to 0″·60 only. This difference is satisfactorily accounted for by the circumstance of the cone which carries the object-glass being about an inch and a half longer than the one which carries the wire-frame, and might evidently be mechanically annihilated in another instrument. I should infer that the cones of the telescope are hardly as stiff as is desirable, and that a material of greater rigidity than the hammered brass they are composed of would have been preferable. I do not believe, however, that any evil effect has resulted therefrom.

A somewhat similar test of strength was applied to the horizontal axis, by directing the telescope vertically downwards to a trough of mercury, and viewing the wire as seen directly and by reflection with a Bohnenberger eyepiece. In this case the reading of coincidence of the central wire with its reflected image was first obtained, and then weights of 2, 4, and 7 pounds gently applied alternately in excess to the counterpoise-weights, and the displacement of the image observed. The flexures were found to be just sensible, though small, the variation of the coincidence-reading being at the rate of 0″·06 per pound applied to either counterpoise,

which is equivalent to a variation of effective level-error of 0″·015 for every additional pound strain applied to the axis at the points at which the friction-wheels meet it. I have considered the result to be one with which an observer may be satisfied, the irregularities of level-error which would result from probable irregularities of action of the counterpoises being quite negligible.

It was pleasing in all the above cases to ascertain the still more important fact of the sensibly perfect elasticity of the axis and telescope-cones, no appretiable time being required for them to regain their previous forms on removal of the tortures to which they were subjected.

4. Of the clock. The 'regulator' used for the observation of transits was made by the late Mr. Henry Appleton, of Southampton Row, Russell Square, who died before it was actually delivered to me. It has a dead-beat escapement which, though rather feeble in its tick, is still inferior in that respect only to the beat of the 'Hardy' clocks. Attempts which were made by my desire to increase the sound and sharpness were but partially successful, and need not be further alluded to. The pendulum has the mercurial compensation, and was, throughout the period to which this account refers, somewhat over-compensated and requiring occasional rectification of the bob. It is not necessary to say more than that the rate, though but moderately good, was yet quite sufficiently so for the observation of stars near to the Pole, in which the accuracy of resulting positions depends so much more on the accurate determination of the instrumental errors than on the hundredths of a second in clock-error. The sheets containing the resulting errors and rates will be found among my papers, should after-reference be found desirable, but will not be printed in this volume.

§ 5. *Of the Values of Screws, and Intervals of Wires.*

The wire-frame of the eyepiece is provided with two fine screws of nearly equal thread, one of which, when turned so that its readings increase, moves the whole system of meridian wires westwards, and the other when similarly turned moves a single wire nearly at right angles to the meridian southwards.* The first of these screws (the collimating screw) was occasionally used in referring the several meridian wires to the mark of one of the Collimators, in order to obtain proportional screw-intervals of the wires; and more frequently in the observation of level-error and of the Collimators, in order to set the wire-frame so that no sensible numerical correction should be required for the united effects of collimation-error and diurnal aberration of light. The value in seconds of arc of this screw, the head of which is divided into 100 parts, was found to be

$$1 \text{ rev.} = 32''\cdot03$$

from measurements of the screw-intervals of the transit-wires compared with their distances given by numerous observations of close polar stars whose apparent polar distances were known. The value of one revolution of the second of these screws, with which the bisecting wire was moved, was found to be

$$1 \text{ rev.} = 32''\cdot05$$

by bisecting with its wire a fixed point of one of the Collimators at different suitably varied inclinations of the telescope, and comparing its readings with the corresponding readings of the circle. For the most past this screw was kept set to its zero, bisections of stars on the meridian being commonly made by moving the whole instrument with the tangent-screw of the clamp: but when two stars, such as the components of a double star, passed the meridian nearly together, one was commonly bisected by the tangent-screw, and the second by the meridian screw of the eyepiece.

The only other screws whose values affect results, are the four screws of the micrometer microscopes, which are of nearly equal thread, and whose heads are divided each into 60 parts.

* As this description may not be perfectly clear, it may be stated that the circle-readings increase with the north polar distance, and that the screw-readings are always additive.

By occasional adjustments (two or three times a year) of the object-glasses and screw-boxes of the microscopes, the value of one revolution of each of these screws was always kept nearly equal to 60″, the excess of five revolutions over 300″ being termed 'the error of runs' and scrupulously deducted in due proportion from every reading of the circle. At the end of every night of observation, the value of the 'run' of each microscope was ascertained by measurement of the screw-interval of consecutive divisions on the circle (generally in the neighbourhood of the Pole), the mean 'run' of the four or of the two microscopes, whichever were in use, rarely exceeding 0″·3 for 5′. I have not gone into any refined examination of the regularity of the threads of these screws, from a thorough reliance on the excellent quality of Mr. Simms's micrometer-work, nor have I, beyond ocular inspection, examined into eccentricity of division of the screw-heads.

For the observation of the time of passage over the meridian, the wire-frame carried in all 9 meridian wires, thus designated,—

A B 1 2 3 4 5 C D

the wires being seen in the above position when the observer was seated with the telescope turned towards the Pole, south stars first passing the wire A. The nine wires were intended to be, and always were, used as two separate systems of seven wires (A, B, 1, 3, 5, C, D,) with equatorial intervals of about $10^s{\cdot}7$, and of five wires (1, 2, 3, 4, 5,) with intervals of about half the preceding amount. The system of seven wires was used for the observation of south stars for clock-error, and the system of five for the stars in the neighbourhood of the Pole. In no instance was any observation of a polar star for the Catalogue made on either of the wires A, B, C, or D. The intervals were originally determined, and on subsequent occasions reexamined by observations of the transits of known polar stars, in combination with the proportional (not absolute) intervals given by the collimating screw, the single values of the latter being liable to much less discordance than those of the former. From the 21st of January 1854 to the 27th of January 1855, the following intervals were used, for which the mean of the five close wires was the adopted zero—

	s		s
A	−32·01		
B	−21·35	1	−10·680
1	−10·68	2	− 5·365
3	− 0·01	3	− 0·010
5	+10·71	4	+ 5·345
C	+21·36	5	+10·710
D	+32·08		

after which time till the conclusion of the work, the following slightly different values were preferred, for which wire 3 is the zero—

	s		s
A	−32·00		
B	−21·34	1	−10·670
1	−10·67	2	− 5·350
3	0·00	3	0·000
5	+10·71	4	+ 5·350
C	+21·37	5	+10·710
D	+32·09		

The investigations which led to the above values will remain among the unpublished papers, and can at any future time be referred to, should necessity arise.

§ 6. *On the Mode of observing and recording the Observations.*

At the beginning of each week during the year 1854, and at the commencement of each month during the years 1855 and 1856, the error of level of the horizontal axis, the reading of the circle for the nadir position of the telescope, and the reading of the collimating screw for the position at which the joint effects of collimation-error and diurnal aberration were annihilated, were regularly observed and recorded. The level-error was obtained by comparing the reading of

the collimating screw when the central wire was coincident with its reflection from the surface of mercury, with the reading which destroyed collimation-error; the record of the level-errors being kept solely for the sake of its evidence that the variations were slow and steady, as it was not intended to make direct application of the values thus obtained. Enough has been said on this point in a previous note. The nadir point reading was similarly observed by combining the reading of the meridian screw when the horizontal wire was coincident with its reflected image with the reading of the circle, and was recorded for a similar purpose, no direct application being made of the resulting values. The telescope remaining in a vertical position, two caps with which apertures in the central cube were covered (see the woodcut) were temporarily removed, and the images at the foci of the two collimators, which under these circumstances were mutually comparable, were laterally adjusted so that the geometrical lines joining the optical centre of the object-glass and a selected point in the web of the wire-frame of each should be strictly parallel to one another, and nearly in the meridian. The caps being replaced on the apertures of the central cube, the transit-telescope was in succession directed to each collimator, and the reading of the collimating screw obtained at which the centre of the central wire coincided with each collimator-mark, the mean of the two readings being that at which the collimation-error was destroyed, and the same reading increased by a small quantity ($0^r{\cdot}006$) the reading at which the screw was afterwards set for the usual observations. On the occasion of these examinations, opportunity was taken, if required, of raising the instrument, for the purpose of cleaning or oiling its bearings, wiping the object-glass, or re-adjusting the microscopes; the examination in that case being repeated. At the commencement and close of every night's work, the heads of the two screws of the eyepiece were examined, in order to see that they had not got displaced, and an entry made on the observation-slip of the readings, as well as of the amplitude of vibration of the clock-pendulum, that any undue increase of friction of the parts of the clock might be stopped before it affected its performance.

The stars to be observed on each night were of three classes :—

1. Certain stars (generally four or more) from a selected list of twenty special polar stars, hereafter to be mentioned, for the determination of the meridian error, and of the reading of circle at which the telescope would be directed to the Pole.

2. Certain south stars (generally three or more) from a selected list, derived from recent Greenwich observations, hereafter to be mentioned, for the determination of the error and rate of the clock.

3. Stars for the Circumpolar Catalogue, whose approximate positions were extracted from the provisional catalogue, as formed from the maps of the region constructed with the Equatorial.

For greater convenience the provisional catalogue was subdivided into three portions, which I take the liberty of designating by the term *subzones*, the first containing all the stars within 4° of the Pole, the second those lying between 4° and 7° of polar distance, and the third the remainder. Each of these sections afforded as much work as, on the plan formerly detailed, could be accomplished in a year, and it was found an assistance both in observation and subsequent computation to follow the arrangement here described. Corresponding to each year's working list a series of working charts was prepared, which during observation were constantly referred to, for the purpose of avoiding mistakes in recognising individual stars when others were situated in the immediate neighbourhood. As I never sat down to the telescope after setting it, without a previous knowledge of the stars I should find, it has very rarely happened that a mistake of identity has occurred, as will be seen by inspection of the printed results. On rising from the telescope, and immediately after writing down the observation, a stroke was written in the working list against the star just observed, by which practice I was always on subsequent nights informed of the number of observations which the star had received, and of the number required by my plan. I am precise in mentioning this trifling point, because the neglect of so simple a precaution is the very cause of most of our catalogues presenting such an undesirable absence of uniformity in the weights of the results which they embody.

In observing stars for the Circumpolar Catalogue, it was, as before stated, an adopted principle with me, that in all cases the positions should be at least three times observed; that in every instance there might be the means of deciding without conjecture the nature of errors of entry. To bring the work of observation of nearly 4000 stars, involving nearly 15000 single observations, within reasonable limits of time, the opportunities of the climate being

known, it was sufficiently obvious that the observer would have to content himself on each occasion with recording the time of passage over a single wire and a circle-reading depending on single bisections. I was aware that the condition was not one which would enable me to exhibit results of the first accuracy to a critic who should run his eye down the columns of residual errors without being aware of the circumstance; but it appeared to me to be so much more important that every final position of the concluded Catalogue should thus be the indisputable result of at least three independent processes, than that a less number of individual results should singly exhibit a greater degree of accordance, with the certainty that among the derived results there would be a percentage essentially faulty or doubtful, that my choice was soon made. The bisections were commonly made by means of the south tangent-screw, with the horizontal wire set constantly at its zero-reading, as the position of the telescope when directed to the Pole would have rendered necessary the use of a reflector for reading the head of the micrometer-screw, and given rise to a class of errors of entry certain to be numerous, and incapable of being afterwards removed. Individual accuracy was here again intentionally sacrificed to final certainty. It is not, however, to be understood that this account applies to stars of the first of the above-named classes. The special polars were commonly observed over three or five wires, and bisected more than once with the movable wire. The south stars were, unless wires were lost by clouds, observed over each of the seven wide wires, and were not observed in polar distance.

As a general rule, the labour of observation was divided between myself and my assistant; the setting of the telescope, observation of the transit of the star, its bisection by the horizontal wire, and the reading of the circle to the nearest 5′ being made and recorded by myself, the clamping and unclamping the circle, and the reading and recording the readings of the microscopes being performed by Mr. Simmonds. During the year 1854, there was no exception to this arrangement; but during the years 1855 and 1856, in consequence of objections made by Mr. Simmonds, I observed alone on all Sunday nights on which the state of the weather induced me to allow no interruption of the usual work. The initials in the column of applied polar point readings on these nights in the 'Table of instrumental errors' indicate the occasions on which this occurred. There will accordingly be found among the original papers two sets of records on slips of the dimensions of $17\cdot5 \times 4$ inches, stored in a box for preservation, corresponding to the two above-named portions of a complete observation; these slips being connected by running reference-numbers, written for convenience on the right-hand side of mine and on the left of Mr. Simmonds's. The following extract will serve as a sample of our mode of writing down the observed data, which was done, I may here add, with metallic pencils on prepared paper, from which the trace is not afterwards erasible.

1855. April 17.

R.C.C's slip.

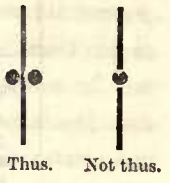
2399		80
— | — | — | — |	14. 7. 26·5	6 . 50 +
n. f. of 2		0 · 155
2421	11	81
14. 13. 49·5 | — | — | — | — |		6 . 30
2425	10½	82
— | — | — | — |	14. 16. 26·5	4 . 50 +
2444	10½	83
14. 19. 53·5 | — | — | — | — |		4 . 35
30·09 | 41·6		
2453	9	84
— |	14. 24. 7·0 | — | — | — |	5 . 20

G.H.S's slip.

80 |	The same as 78.	
81 |	+ 2. 51·9 |	+ 2. 47·0
82 |	N.C. 3. 57·5 |	N.C. 3. 50·1
83 |	+ 1. 14·2 |	+ 1. 8·2
84 |	+ 1. 19·1 |	+ 1. 12·7

The above numbers will be referred to in the next section, in which the process of their reduction to apparent place will be explained. In the present section there only remains to be added that the barometer (a standard by Barrow), and the mean of two exterior thermometers, were read and recorded at intervals of 30, 40, or 60 minutes, according to the state of the atmosphere; and that the usual hours of observation extended from dusk till two hours past midnight. Dur-

ing a portion of the second subzone, it was found possible on a long winter night, to record 160 positions in the course of one such night; but this amount of exertion, implying seven or eight hours almost constant labour, proved too severe, and the night's work was afterwards commonly closed either at 14^h, or whenever about 100 positions had been obtained, the latter implying about six hours on duty with moderate exertion. One or two minor precautions which were observed here find a proper occasion for mention. The first is that, in observing the transit of a polar star, it was always my habit to derive the instant of the star's passing the centre of the wire from the mean (taken mentally) of the times of its first and last contact with the wire, as a mode more accurate, and less liable to personality of estimation, than the direct observation of the instant of bisection. The second is that, in the use of screws generally, whether the tangent-screw, the screws of the eyepiece, or those of the microscopes, it was a fixed rule that bisections were always made by turning the screws in one uniform direction, and that if the intended position were overshot, a second trial should be made after reversing the motion for a sensible space. The bisection of the divisions of the circle was commonly made by the cross of the micrometer being placed on the division of the circle next following the zero of the microscope, unless the distance approached or exceeded 4′, in which case the bisection was made on the preceding division, and the letters N.C. written against the readings to imply that the correction for 'runs' would require to be applied to the complement of the recorded quantities with reversed sign (*Negative Correction.*)



The last process of each night of observation, was the examination of the 'runs' of the micrometer-microscopes, as stated in the previous section, under 'values of screws.' The examination was always made by the observer who had been using the circle, as it is well known that there is personality in the results of such readings.

The observed times and readings were copied by myself into the reduction-books as soon as other matters allowed, commonly within a week, and always while the attendant circumstances were fresh in my memory; and were subsequently checked by Mr. Simmonds before treatment.

§ 7. *On the Reductions to Apparent Place.*

It has been already remarked that the observations on any night were naturally divisible into three classes:—1stly of certain polar stars; 2ndly of certain south stars; and 3rdly of stars for the Catalogue. The subject of this section is the explanation of the process by which the apparent positions of stars of the third class were derived from those of the two former, and it will be convenient to commence by enumerating the assumed positions of the stars thus treated as known, and to defer the evidence on which that assumption rests for the 20 special polar stars to the section which next succeeds.

The adopted positions of the 20 special polar stars were—

No.	Mag.	R.A. 1855·0.	N.P.D. 1855·0.	Cat. No.	No.	Mag.	R.A. 1855·0.	N.P.D. 1855·0.	Cat. No.
		h m s	° ′ ″				h m s	° ′ ″	
...	...	... ...	... ...	...	12	6·2	12. 14. 22·1	1. 29. 46·8	1834
1	6·7	0. 45. 30·7	1. 45. 23·9	0117	...	...	... ...	... ...	...
2	2	1. 6. 31·2	1. 27. 48·8	0181	...	...	... ...	... ...	...
...	...	... ...	... ...	...	13	7·5	13. 12. 10·5	1. 34. 26·2	1972
3	8·5	2. 30. 34·5	2. 2. 53·0	0375	...	...	... ...	... ...	...
...	...	... ...	... ...	...	14	7·2	15. 25. 59·7	2. 13. 9·4	2316
4	7·0	3. 52. 25·1	4. 50. 7·5	0575	...	...	... ...	... ...	...
...	...	... ...	... ...	...	15	7·0	16. 6. 35·0	4. 17. 20·0	2423
5	6·5	5. 15. 59·2	4. 53. 35·0	0770	...	...	... ...	... ...	...
6	6·8	5. 48. 0·4	3. 14. 26·6	0842	...	...	... ...	... ...	...
...	...	... ...	... ...	...	16	4·5	18. 19. 6·8	3. 24. 0·6	2755
7	5·5	6. 31. 6·6	2. 44. 51·3	0956	...	...	... ...	... ...	...
8	7·0	7. 3. 39·6	0. 58. 10·5	1035	...	...	... ...	... ...	...
...	...	... ...	... ...	...	17	6·5	20. 8. 29·9	1. 7. 27·4	3058
...	...	... ...	... ...	...	18	7·5	21. 27. 40·8	3. 34. 15·9	3273
9	8·2	9. 47. 45·2	2. 0. 37·5	1460	...	...	... ...	... ...	...
...	...	... ...	... ...	...	19	7·3	22. 30. 46·2	2. 39. 23·7	3466
10	7·5	10. 52. 57·5	1. 34. 29·3	1639	...	...	... ...	... ...	...
...	...	... ...	... ...	...	20	5·7	23. 27. 49·5	3. 29. 32·4	3621
11	6·5	11. 57. 21·8	3. 36. 32·3	1793	...	...	... ...	... ...	...

and the assumed positions of south stars as follows—

South Stars.		Adopted place for 1855·0.		Corrs. applied to N.A., and No. of Obs.					
	Name.	Mean R.A.	N.P.D.	1854.		1855.		1856.	
				Corr.	Obs.	Corr.	Obs.	Corr.	Obs.
		h m s	° ′	s		s		s	
1	α Androm.	0. 0. 54·03	61. 43	+·08	4	—	0	+·06	1
2	γ Pegasi	0. 5. 46·40	75. 37	+·04	4	+·03	11	+·03	3
3	β Ceti	0. 36. 18·54	108. 47	+·11	5	+·07	11	+·07	1
4	θ Ceti	1. 16. 46·58	98. 56	+·03	11	+·05	11	+·05	2
5	α Arietis	1. 59. 0·48	67. 14	+·09	7	+·04	4	+·04	3
6	γ Ceti	2. 35. 47·45	87. 23	+·04	5	+·04	5	+·04	3
7	α Ceti	2. 54. 42·23	86. 29	+·02	1	+·08	3	+·08	1
8	η Tauri	3. 38. 52·34	66. 21	+·03	4	+·05	7	+·05	4
9	Aldeharan	4. 27. 36·27	73. 47	+·03	7	·00	11	·00	2
10	Rigel	5. 7. 34·28	98. 22	—	0	+·05	7	+ 05	7
11	β Tauri	5. 17. 7·76	61. 31	+·05	2	+·04	4	—	0
12	δ Orionis	5. 24. 36·04	90. 25	−·02	2	+·02	4	+·02	2
13	ε Orionis	5. 28. 51·44	91. 18	+·04	2	+·04	4	+·04	1
14	α Orionis	5. 47. 19·39	82. 37	+·05	8	+·04	2	—	0
15	μ Gemin.	6. 14. 11·32	67. 25	+·04	6	+·05	13	+·05	3
16	Sirius	6. 38. 45·55	106. 31	−·01	2	—	0	—	0
17	δ Gemin.	7. 11. 27·62	67. 45	−·01	6	+·02	5	+·02	5
18	Procyon	7. 31. 42·66	84. 24	+·20	2	+·15	2	+·15	6
19	Pollux	7. 36. 26·29	61. 38	+·08	3	+·06	4	+·06	4
20	ε Hydræ	8. 39. 5·69	83. 3	−·02	7	+·02	8	+·02	12
21	α Hydræ	9. 20. 27·69	98. 2	+·07	5	+·04	7	+·04	2
22	ε Leonis	9. 37. 36·84	65. 34	+·03	7	+·06	8	+·06	7
23	Regulus	10. 0. 38·76	77. 20	+·04	2	+·04	13	+·04	1
24	δ Leonis	11. 6. 23·49	68. 41	+·03	11	+·02	11	+·02	7
25	δ Hydræ	11. 12. 5·68	104. 0	+·10	2	—	0	+·09	4
26	β Leonis	11. 41. 39·66	74. 37	+·08	6	+·06	12	+·06	8
27	β Corvi	12. 26. 46·71	112. 36	+·18	9	+·15	1	+·15	1
28	12 Can. V.	12. 49. 14·28	50. 57	+·04	7	+·05	1	+·05	1
29	Spica	13. 17. 33·54	100. 24	+·06	25	+·04	12	+·04	2
30	η Bootis	13. 47. 46·86	70. 52	—	0	+·06	6	+·06	7
31	Arctnrus	14. 9. 2·96	70. 4	+·09	7	+·06	12	+·06	4
32	ε Bootis	14. 38. 39·30	62. 19	+·07	10	+·08	4	+·08	2
33	α^2 Libræ	14. 42. 51·81	105. 26	—	0	—	0	·00	1
34	β Libræ	15. 9. 12·55	98. 51	—	0	+·05	4	+·05	6
35	α Cor. Bor.	15. 28. 33·00	62. 48	+·10	2	+·07	2	—	0
36	α Serpentis	15. 37. 7·71	83. 7	+·08	5	+·05	11	+·05	7
37	δ Ophiuchi	16. 6. 45·04	93. 19	—	0	+·08	5	+·08	1
38	κ Ophiuchi	16. 50. 48·43	80. 24	—	0	—	0	—	5
39	α Herculis	17. 8. 2·22	75. 27	+·07	5	+·06	5	+·06	10
40	α Ophiuchi	17. 28. 12·31	77. 20	+·11	8	+·08	13	+·08	10
41	μ Herculis	17. 40. 47·12	62. 12	—	0	—	1	—	0
42	μ Sagitt.	18. 5. 5·52	111. 6	—	0	+·05	3	+·05	3
43	β Lyræ	18. 44. 43·63	56. 48	+·10	9	+·09	1	—	0
44	Aquilæ	18. 58. 44·77	76. 21	+·12	11	+·13	5	+·13	6
45	δ Aquilæ	19. 18. 11·21	87. 10	+·09	10	+·05	17	+·05	12
46	γ Aquilæ	19. 39. 21·94	79. 46	+·03	8	+·03	20	+·03	15
47	α Aquilæ	19. 43. 42·50	81. 31	—	0	+·06	9	+·06	3
48	β Aquilæ	19. 48. 11·43	83. 57	—	0	+·05	16	+·05	17
49	α Cygni	20. 36. 29·42	45. 14	+·14	4	+·11	1	—	0
50	ζ Cygni	21. 6. 46·01	60. 22	+·06	8	+·07	11	+·07	4
51	β Aquarii	21. 23. 55·37	96. 12	—	0	+·07	3	+·07	1
52	ε Pegasi	21. 37. 3·84	80. 47	−·03	2	+·01	9	+·01	4
53	α Aquarii	21. 58. 20·10	91. 1	—	0	+·07	6	+·07	1
54	ζ Pegasi	22. 34. 13·87	79. 55	+·05	8	+·07	2	+·07	3
55	α Pegasi	22. 57. 32·43	75. 34	+·04	5	+·03	9	+·03	2
56	ι Piscium	23. 32. 29·61	85. 10	+·02	3	·00	13	·00	1

The adopted Right Ascensions of the south stars were derived from the observations made at Greenwich with the great transit-circle during the years 1851, '2, and '3; the numbers used at Redhill during the year 1854 being however necessarily derived from Greenwich observations of the two first years only, but not differing sensibly from those given in the table. From these the Apparent Right Ascensions were obtained from the tables of the Nautical Almanac, by applying the corrections given in the three columns on the right, required by the mean positions of that Ephemeris. It follows that the position of the Equinox assumed in my reductions depends on that assumed at Greenwich during the years 1851, '2, and '3, and that whatever constant correction may be found to be required by the Greenwich Right Ascensions of those years, will be equally applicable to those of this Catalogue. But a moment's consideration will show that, practically, the absolute accuracy of the above numbers may be assumed, and further correction disregarded, inasmuch as the assumed Right Ascensions are certainly not liable to

errors of a tenth of a second of time arising from error of observation and error of equinox combined, and in Right Ascensions of stars so near the Pole as those here depending upon them, errors of a few hundredths of a second are negligible in comparison with the errors arising from ill determination of meridian error.

The stars of the first class were those selected for the determination of instrumental errors, and those of the second for errors of the clock. In the reduction of stars near the Pole, it appeared to me to be indispensable that on every night of observation reliable values of the meridian error of the transit-instrument and index-error of the circle should be obtained, and which as nearly as possible should apply strictly to the hours over which the use of the instrument extended. Had I relied on alternate passages of α and δ Ursæ Minoris above and below pole, it must continually have happened that one or both the transits were wanting or defective, and that the position of the instrument must have been inferred without full confidence, from data obtained at too great an interval of time. I preferred therefore to extend my list of determining stars to twenty, taking care to base their adopted positions ultimately on double transits of α and δ Ursæ Minoris, and to derive the instrumental errors from at least four several observations of special stars on each night, two being taken above and two below the pole, as nearly as circumstances would permit. Reference to the surface of mercury for the determination of zenith readings did not appear to me so suitable as determinations of polar point readings from known stars similarly circumstanced with those to be deduced from them, nor did the use of a Collimator, as a comparatively fixed azimuthal mark, seem to me so proper as the mode of finding meridian error which is mentioned above, and will be more fully explained below. How far, and with what success, these principles were followed the 'Table of instrumental errors' printed at the end of the introduction will perhaps show better than anything else.

The five observations, of which the original entries are given in the preceding section, will be taken as an illustration of the mode of reduction. They stand in the reduction-ledger thus—

1855	April 17.				
	2399 | —	2421 | 11	2425 | 10½	2444 | 10½	2453 | 9
	*		*		
′ ″					
+3. 6·5	6. 53. 49·65	6. 32. 49·45	4. 53. 53·80	4. 36. 11·20	5. 21. 15·90
0·0	+0·155 +5·49	+·14	+·72	+·77	+·16
	6. 57. 1·64	6. 35. 56·09	4. 57. 1·02	4. 39. 18·47	5. 24. 22·56
·08	36·64	37·15	39·56	40·01	38·88
	72 ·26	72 ·27	73 ·29	74 ·30	75 ·29
App. N.P.D.	6. 56. 24·74	6. 35. 18·67	4. 56. 21·17	4. 38. 38·16	5. 23. 44·39
	+5·87	+6·75	+6·53	+7·32	+7·71
Mean N.P.D.	6. 56. 18·87	6. 35. 11·92	4. 56. 14·64	4. 38. 30·84	5. 23. 35·68
	14. 7. 26·5	14. 13. 49·5	14. 16. 26·5	14. 19. 53·5	14. 24. 7·0
	5 −1. 28·64	2 +46·63	5 −2. 4·40	1 +2. 11·78	2 +56·90
″	14. 5. 57·86	14. 14. 36·13	14. 14. 22·10	14. 22. 5·28	14. 25. 3·90
+1·1	0·60	0·63	0·84	0·89	0·77
+37·05	58·46	36·76	22·94	6·17	4·67
−0·12	36·98	36·98	36·98	36·98	36·98
App. R.A.	14. 6. 35·44	14. 15. 13·74	14. 14. 59·92	14. 22. 43·15	14. 25. 41·65
	+13·69	+14·29	+19·03	+20·05	+17·22
Mean R.A.	14. 6. 21·75	14. 14. 59·45	14. 14. 40·89	14. 22. 23·10	14 25. 24·43
	2399 n. f. of 2	2421. The wire has been altered.			

Simple comparison of this extract with the specimen of the original entries will show how the first lines of the above reductions are obtained.

To the mean circle-reading we have now to apply—

1. The correction for the runs of the microscopes.
2. The correction for the reading of the eyepiece-screw, if not at zero.
3. The correction for inclination of the nearly horizontal wire.
4. The correction for curvature of the star's path.
5. The correction for index-error of the circle.

6. The corrections for division-errors and flexure.
7. The correction for atmospheric refraction.

To the time of transit over a wire we have to apply—

8. The correction for the interval in time between the observed wire and the central wire.
9. The corrections for deviation of the instrument from the meridian.
10. The correction for error and rate of the clock.

Taking them in order, it happens that the mean 'run' of the two microscopes on the above night was found to be less than $0''{\cdot}1$ for $5'$ and was considered negligible. Correction for screw-reading ($+0{\cdot}155 \times 32''{\cdot}05$) is required by the star 2399 only. Till Sept. 1855 no sensible deviation of the bisecting wire from a parallel was perceivable; after which time, however, the following were the corrections adopted for stars above the Pole—

$$+0''{\cdot}10 \times (n-3);$$

n being the number of the wire. The correction for curvature was taken from a little table, the number of the wire at which the star was bisected being the argument, computed from the formulæ—

$$n'' = \text{Log}^{-1}\,(8{\cdot}7955)\ \text{cotan}\ \delta, \qquad \text{for wires 1 and 5.}$$

and

$$n'' = \text{Log}^{-1}\,(8{\cdot}1933)\ \text{cotan}\ \delta, \qquad \text{for wires 2 and 4.}$$

When the correction for inclination was sensible it was combined with that for curvature in the same table, the arguments being similar. The correction for runs being reckoned mentally, and the correction for screw-reading being rarely required, the following four corrections were commonly applied at once in the second line:—

	2399	2421	2425	2444	2453
	"	"	"	"	"
For Runs - -	0·00	0·00	0·00	0·00	0·00
„ Screw -	+4·97	0·00	0·00	0·00	0·00
„ Inclin -	0·00	0·00	0·00	0·00	0·00
„ Curv*- -	+0·52	+0·14	+0·72	+0·77	+0·16
	+5·49	+0·14	+0·72	+0·77	+0·16

The index-error or difference from 360° of the mean reading of the polar point derived from the special polars was found to be $+3'.\ 6''{\cdot}5$—and was entered in the ledger opposite the first observation of the night, and applied successively to each following observation by holding a copy of its value on a piece of card momentarily over each circle-reading when the corrections of the second line were added on. The first five corrections are accordingly applied by the third line.

As stated in the description of the instrument, no means were provided for the determination of errors of division of the circle, and they necessarily remain uncorrected. The flexure of the telescope was also neglected as varying only at the rate of $0''{\cdot}009$ for a degree in the neighbourhood of the Pole.

The correction for refraction was obtained in a form very convenient in cases like the present from the Astronomer Royal's modified form of Bessel's tables, with the following deviation from the usual mode of applying them, in which the use of logarithms is nearly avoided:—The whole amount of the refraction being by those tables the number of seconds whose logarithm $= B + T + Z$ (within my limits of zenith-distance), will equally be given by the number whose logarithm $= Z + C$, multiplied by the factor whose logarithm $= B + T - C$; the convenience of the latter process lying in this, that the whole refraction may thus be made up of a large portion unaffected by the progressive atmospheric variations of the night (and which may consequently be taken at sight from a previously prepared table), and of a small variable factor which can be applied to a large number of refractions with great rapidity by the slide-rule.* The example of April 17 will afford an illustration. An auxiliary table, applicable throughout the year, was prepared

*An instrument consisting of two rods of boxwood, commonly of about 24 inches in length, divided logarithmically, but graduated with the corresponding natural functions of numbers, squares, sines, tangents, &c.

of the natural numbers of Z (the logarithms depending on the zenith-distance) increased successively by 0·06, 0·07, 0·08, 0·09 and 0·10, with Redhill uncorrected North Polar Distances as arguments: thus—

Expanded Refraction-Table. [ABOVE POLE —SUBTRACT]

N.P.D.	·06	·07	·08	·09	·10
° ′	″	″	″	″	″
4. 0	39·15	40·06	41·00	41·95	42·93
10	38·91	39·82	40·74	41·69	42·66
20	38·67	39·57	40·49	41·43	42·40
30	38·43	39·32	40·24	41·18	42·14
40	38·19	39·08	39·99	40·92	41·87
50	37·95	38·83	39·74	40·66	41·61
5. 0	37·71	38·59	39·49	40·41	41·35
10	37·47	38·34	39·24	40·15	41·09
20	37·24	38·10	38·99	39·90	40·83
30	37·00	37·86	38·74	39·65	40·57
40	36·77	37·62	38·50	39·40	40·32
50	36·53	37·38	38·25	39·15	40·06
6. 0	36·30	37·15	38·01	38·90	39·81
10	36·07	36·91	37·77	38·65	39·55
20	35·84	36·68	37·53	38·40	39·30
30	35·61	36·44	37·29	38·15	39·05
40	35·38	36·21	37·05	37·91	38·80
50	35·15	35·97	36·81	37·67	38·55
7. 0	34·93	35·74	36·57	37·43	38·30

In the next place there was prepared for each night a table of the following quantities—

1855.	Sid. Time.	Bar.	Ext. Th.	B+T	−·08000	Nat. Nos.
	h m	in	°			
April 17	9. 31	30·09	45·0	·07987	9·99013	1 −·0003
	10. 1	·09	43·8	·08095	0·00095	+ ·0022
·08	10. 38	·10	42·9	·08190	·00190	·0044
	11. 32	·10	42·8	·08199	·00199	·0046
	13. 6	·10	42·0	·08271	·00271	·0063
	14. 21	·09	41·6	·08293	·00293	·0067
	15. 10	·09	40·0	·08437	·00437	·0101

the figures ·08 in the last table (written under the date) and in the fourth line of the specimen from the ledger, indicating that the sum of the logarithms B and T was on that night diminished by the constant logarithm 0·08000, and that the greater part of the refraction must be interpolated from the middle column of the first table in which the logarithm Z has been correspondingly increased. Thus the refraction of star 2399 above consists of the two parts $36{\cdot}64 + 0{\cdot}26 = 36{\cdot}64 + 36{\cdot}64 \times 0{\cdot}0072$, the last and significant figures of the factor only being written in practice. The factors themselves were in practice laid down graphically on squared paper, and thence interpolated accurately for each star. The two lines were deducted together from the uncorrected polar distance without any difficulty. The next line of the specimen is therefore the Apparent North Polar Distance given by the observation.

The first correction to the observed time of transit over a wire is the reduction to the time at which it would have passed the central wire, by applying the amount computed from the known Equatorial intervals of the wire. In the reduction of the first subzone, this correction was separately computed for every observation by the formula—

$$t^s = w^s . \operatorname{cosec} \delta \times \frac{\text{arc}}{\sin} (15\, t'') ;$$

in applying which the following little table was found useful:—

Log. t.	Log. $\frac{\text{arc}}{\sin} 15\, t$.
2·0	·00000
2·2	·00001
2·4	·00002
2·6	·00006
2·8	·00015
3·0	·00038

In the reduction of the second zone, from which the specimen is taken, as also of the third, the corrections were extracted at sight from a table of wire-intervals computed for every minute of polar distance from 4° to 9°. The examples can, however, be checked directly from the formula and the intervals given in section 5.

Under the head of corrections for deviation from the plane of the meridian it has to be noticed that the pivots, being new and most carefully turned on 'dead centres,' were assumed to be perfectly cylindrical. The formulæ for the other corrections (collimation, level, and azimuth,) may, as is well known, be put in the form

$$c \cdot \tfrac{1}{15} \cdot \operatorname{cosec} \delta + m \cdot \tfrac{1}{15} \cdot \operatorname{cotan} \delta + n ;$$

in which c is the collimation-error, m the meridian error caused by level and azimuth-error jointly, and n a constant. The value of c, as stated in a previous section, including the amount of diurnal aberration, it was found practicable by means of the collimating telescopes to keep constantly by mechanical adjustment of a negligible amount, that is, much under a second of arc, the undetermined residuum being left to merge itself with the quantity m. The constant n, if absolute sidereal time is not required for other purposes, and the level-error varies very slowly, may be theoretically, and was in practice, left to mix itself with the error of clock. The only correction applied to Catalogue-stars was accordingly—

$$m \cdot \tfrac{1}{15} \cdot \text{cotan. app. N.P.D.}$$

for which the constant (for the night) m was determined from the special polar stars observed on the night. The values of m which were applied will be found in the 'Table of instrumental errors'; for April 17, 1855, the example selected, m was + 1″·1. This quantity was converted into time by division by 15, and set on the slide-rule to be divided by the tangent of the N.P.D. of each star, there being no necessity to make entries of numerical factors. The corrections in the fourth line of the reductions in R.A. of the above examples were thus derived.

The clock-error deduced from the observations of the south stars, was usually tabulated in practice on a piece of waste paper for intervals of one or two hours, and interpolated at sight for each star. In the example the clock was found to be 27ˢ·05 slow at the preceding passage of the first point of Aries, with a daily gaining rate of 0ˢ·12. In the adoption of a rate I was guided by the consideration that if the rate were supposed to vary uniformly, and r_1 were the mean rate for 24 hours given by the observations of the night and the previous night, and r_2 the mean intermediate rate to the succeeding night, the instantaneous rate of the night would theoretically be

$$\frac{r_1 \cdot t_2 + r_2 \cdot t_1}{t_1 + t_2}.$$

It only remains to be shown how the circle-reading for the polar point, and the meridian error, were derived from the observations of the special polar stars, and the explanation will be most clearly understood by inspection of the Table at the end of this Introduction.

The determining stars were, similarly to the Catalogue-stars, corrected in N.P.D. for runs, screw-reading, inclination, curvature, and refraction. Then to the assumed mean N.P.D. of each were added the astronomical corrections for precession, nutation, and aberration (which in this section must be assumed to be correctly computed). A comparison, by subtraction, of the computed apparent N.P.D. of each with its circle-reading, gave the reading of the polar point required by the latter to make it agree with the former, and from the polar point readings of the different special polars of each night was concluded, without the addition of any other consideration, the index-error of the circle to be applied to Catalogue-stars.

In a similar manner the quantity m was found from each special polar, by correcting the observed times to the central wire, applying clock-error, and lastly the above astronomical corrections for R.A. with sign changed, and deducting the result from the adopted mean R.A. of the star. The division of each difference by the proper factor $\frac{1}{15}$. cotan δ gave an independent value of m, and from the totality was adopted the value to be applied to Catalogue-stars, single values derived from observation of a star over less than three wires receiving half weight. In the first column of the Table are given, under w, the number of wires observed; in the second, under t, the seconds of observed R.A. corrected for all but meridian error; in the third, the factor; in the fourth, under d, the difference above mentioned; and in the fifth, the resulting value of m. The clock-errors used in this process were found from the south stars by correcting them by an approximate value of m, in the selection of which no difficulty occurred; if, however, the value of m first used were afterwards found sensibly incorrect, it was replaced by a second better value.

§ 8. *On the Computation and Application of the astronomical Corrections for Precession, Nutation, and Aberration.*

As I am not aware of the existence in the English language of any work in which a concise demonstration of the formulæ required by the above corrections is given, carried to the extent here needed, I propose to append to this Introduction a synopsis of their theory, and to confine myself in this section to a simple exposition of the practical process; and as the reader can refer to that Appendix before or during the perusal of this section, I shall in what follows assume him to be acquainted with its contents.

If the formulæ for these corrections be developed for application to Right Ascensions and North Polar Distances, they increase rapidly in the number and numerical magnitude of the terms as the pole of the Equator is approached, and similarly as the pole of the Ecliptic is approached if they are developed for Longitudes and Latitudes. In the great mass of cases formulæ applicable to R.A.s and N.P.D.s of stars are the most convenient, but in the execution of this work, the difficulty had to be encountered of meeting the case of stars exceedingly close to the Pole. It was found that within 42 minutes of the Pole there were 19 observable stars only, (the positions of which are given by themselves at the end of the principal Catalogue, on page 63,) the next observable star lying at the distance of $0°.44'.8$. The R.A. and N.P.D. formulæ were accordingly applied to stars lying beyond the N.P.D. $0°.42'$; and the 19 stars within were treated by converting their observed apparent elements into Longitude and Latitude, and applying the formulæ applicable in that case. In the consideration of quantities which in practice may be allowably neglected, this circumstance is to be remembered; and to those not accustomed to the observation of stars near the Pole it may also be useful to add, that the passage of one of the fine wires of the transit-circle by the star Polaris was a transaction of 9 seconds' duration, and by the 'polarissima' of this Catalogue one of about 5 minutes. In forming an opinion of the treatment which some other points received, it will be well to keep in mind the dates of the several parts of the work. All stars within 4° of the Pole, and the greater part of those within 7°, were observed within one year of the epoch to which they are reduced, and the remainder within 21 months.

The epoch to which the stars of this Catalogue are reduced is 1855·0, the instant at which the longitude of the fictitious mean sun $=280°$, or 1854, Dec. $31^d.\ 10^h.\ 5^m$. Greenwich mean time.

The formulæ used were—

$$\begin{aligned}\alpha'''-\alpha = {} & \mathrm{A} + p\,.\,\mathrm{cotan}\,\delta'\,.\,\cos(\mathrm{P}+\alpha') + q\,.\,\mathrm{cosec}\,\delta'\,.\,\cos(\mathrm{Q}+\alpha') \\ & + 0''.0850\,.\,\mathrm{cotan}\,\delta'\,.\,\cos(180°-2\,\mathbb{C}+\alpha') \\ & + r\,.\,\mathrm{cotan}^2\,\delta'\,.\,\cos 2\,(\mathrm{R}+\alpha')\,;\end{aligned}$$

$$\begin{aligned}\delta'''-\delta = {} & \mathrm{B}\,.\,\sin\delta' + p\,.\,\sin(\mathrm{P}+\alpha') + q\,\cos\delta'\,.\,\sin(\mathrm{Q}+\alpha') \\ & + 0''\cdot0850\,\sin(180°-2\,\mathbb{C}+\alpha') \\ & + \tfrac{1}{4}\,r\,.\,\mathrm{cotan}\,\delta'\,.\,\sin 2\,(\mathrm{R}+\alpha')\end{aligned}$$

in which α''' and δ''' are the apparent R.A. and N.P.D.,

α' and δ' the mean R.A. and N.P.D. at the time of observation,

and α and δ the mean R.A. and N.P.D. for 1855·0;

in which, further, the terms in the second lines are those depending on 2 $\mathbb{C}$ which vary too rapidly to be combined with those which precede, and the terms in the third lines represent the principal single terms of the second order.

A table was very carefully computed of the values of A, B, Log. p, P, Log. q, Q, r, R, for mean noon of every fourth day from Jan 21. 1854 to Sept 29. 1856, from the formulæ—

$$\mathrm{A} = -p\,.\,\sin\mathrm{P}\,.\,\mathrm{cotan}\,\omega,$$

$$\mathrm{B} = -q\,.\,\cos\mathrm{Q}\,.\,\tan\omega,$$

$$p\,.\,\sin(180°-\mathrm{P}) = +\ 6''\cdot8668\,.\,\sin\mathbb{S} - 0''\cdot0822\,.\,\sin 2\,\mathbb{S} + 0''\cdot5053\,.\,\sin 2\odot - 20''\cdot0560\,.\,\tau,$$

$$p\,.\,\cos(180°-\mathrm{P}) = +\ 9''\cdot2236\,.\,\cos\mathbb{S} - 0''\cdot0896\,.\,\cos 2\,\mathbb{S} + 0''\cdot5507\,.\,\cos 2\odot,$$

$$q\,\sin(180°-\mathrm{Q}) = +20''\cdot4451\,.\,\sin\odot,$$

$$q\,.\,\cos(180°-\mathrm{Q}) = +20''\cdot4451\,.\,\cos\odot\,.\,\cos\omega,$$

$$r\,.\,\sin(90°-2\,\mathrm{R}) = +\ 0''\cdot00093\,.\,\sin 2\odot + 0''\cdot00015\,.\,\sin 2\,\mathbb{S} + 0''\cdot00076\,.\,\sin(\odot+\mathbb{S}),$$

$$r\,\cos(90°-2\,\mathrm{R}) = +\ 0''\cdot00093\,.\,\cos 2\odot + 0''\cdot00015\,.\,\cos 2\,\mathbb{S} + 0''\cdot00076\,.\,\cos(\odot+\mathbb{S}),$$

in which the constants of precession, nutation, and aberration are those adopted by Dr. Peters in his disquisition '*Numerus Constans Nutationis.*' From this table, a series of little tables for the different nights of observation was formed in which the above constants were accurately interpolated for every two hours of sidereal time. The following is the table for April 17, 1855:—

1855	Sid. T.	arc	A	B	[p]	P	[q]	Q	180°−2 ☾ +α	r	R
		°	″	″		° ′		° ′	°	″	°
April 17	6h	90	+1·79	+7·23	0·8460	186. 22	1·2814	150. 52	189	0·00181	15
	8	120	80	23	60	24	14	47	217		
	10	150	81	22	60	26	15	42	245		
	12	180	82	22	59	29	16	36	272		
	14	210	83	21	59	31	16	31	300		
	16	240	84	21	59	33	17	26	328		

The formulæ given above require that the elements used in the computation shall be the mean R.A. and N.P.D. at the time of observation, whereas observation and the previously performed computation give the apparent elements. In stars distant from the Pole, this distinction does not require attention; but in the region of this Catalogue, either additional terms must be taken in on account of the use of apparent elements, or the latter must be previously corrected approximately to their mean places. I followed the second course, applying to all the observed apparent positions what are termed in the reduction-papers 'Rough corrections to mean places,' before converting the R.A. into arc for the above formulæ. In these 'Rough corrections' it was only necessary to attend to the principal term of nutation and of aberration, and accordingly for each year a table was formed, at intervals of ten days, of the quantities C and γ, where

$$C \sin \gamma = 20''\cdot45 \cdot \sin \odot + 6''\cdot87 \cdot \sin \mathfrak{Q},$$
$$C \cos \gamma = 18''\cdot76 \cdot \cos \odot + 9''\cdot22 \cdot \cos \mathfrak{Q},$$

from which the required 'Rough corrections' follow by the formulæ

$$\alpha' - \alpha''' = \tfrac{1}{15} \cdot \operatorname{cotan} \delta''' \cdot C \cdot \cos(\alpha''' - \gamma)$$
$$\delta' - \delta''' = C \cdot \sin(\alpha''' - \gamma)$$

The following table contains so much as applies to the first four months of the year 1855,—

Noon.		C.	Diff.	γ.	Diff.
		″	″	°	°
Jan.	1	+17·5	+1·3	302·6	+9·8
	11	18·8	1·2	312·4	9·4
	21	20·0	1·0	321·8	9·1
Jan.	31	21·2	1·0	330·9	8·7
Feb.	10	22·2	1·0	339·6	8·5
	20	23·2	0·9	348·1	8·2
Mar.	2	24·1	0·9	356·3	7·9
	12	25·0	0·7	4·2	7·7
	22	25·7	0·7	12·0	7·5
Apr.	1	26·4	0·6	19·4	7·3
	11	27·0	+0·4	26·7	+7·1
	21	27·4		33·8	

The quantities given by this table and the formulæ were in practice tabulated for every hour of sidereal time, the constant in R.A. being for stars within 4° of the Pole separately multiplied in each case by the factor $\frac{1}{15} \cdot$ cotan δ, but by the factor proper for the mean N.P.D. of the zone for the second and third zones. Thus for 1855, April 17, there was made out the following table:—

1855.	Sid. T.	α‴−γ	R.A.	N.P.D.
	h	°	s	″
April 17	9	104	−4·9	+26·4
	10	119	9·9	23·8
	11	134	14·2	19·5
	12	149	17·5	14·0
	13	164	19·6	7·5
	14	179	20·4	+0·5
	15	194	−19·8	−6·6

from which were interpolated at sight, by graphical curves laid down on squared paper, the corrections for each star. Supposing the approximate R.A. and N.P.D. of the five stars of April 17 thus corrected, and the mean R.A. converted into arc, the computation of the actual corrections

to 1855·0 was conducted as follows in a set of ledgers whose pages corresponded throughout with those in which the previous part of the computation was made.

1855	April 17	2399	——	2421	——	2425	——	2444	——	2453	
α'	211. 34	38. 5	213. 43	40. 14	213. 40	40. 11	215. 36	42. 7	216. 20	42. 51	$P+\alpha'$
δ'	6. 56. 24	2. 5	6. 35. 18	4. 13	4. 56. 20	4. 10	4. 38. 36	6. 6	5. 23. 41	6. 50	$Q+\alpha'$
Log. p	0·8459		0·8459		0·8459		0·8459		0·8459		
Log. cotan δ'	0·9146		0·9374		1·0634		1·0903		1·0249		
Log. cos $(P+\alpha')$	+9·8960		+9·8828		+9·8831		+9·8703		+9·8652		
	+1·6565	+45·3	+1·6661	+46·4	+1·7924	+62·0	+1·8065	+64·0	+1·7360	+54·5	Nat. No.
Log. q	1·2816	+1·8	1·2816	+1·8	1·2816	+1·8	1·2816	+1·8	1·2816	+1·8	A
Log. cosec δ'	0·9178		0·9403		1·0650		1·0918		1·0268		.. ..
Log. cos $(Q+\alpha')$	+9·9997		+9·9988		+9·9989		+9·9975		+9·9969		
	+2·1991	+158·2	+2·2207	+166·2	+2·3455	+221·6	+2·3709	+234·9	+2·3053	+202·0	Nat. No.
Corr. in R.A.	s +13·69	" +205·3	s +14·29	" +214·4	s +19·03	" +285·4	s +20·05	" +300·7	s +17·22	" 258·3	Sum
Log. q	1·2816	+0·87	1·2816	+0·83	1·2816	+0·62	1·2816	+0·59	1·2816	+0·68	B sin δ'
Log. cos δ'	9·9968	+4·31	9·9971	+4·52	9·9984	+4·52	9·9986	+4·70	9·9981	+4·76	p sin $(P+\alpha')$
Log. sin $(Q+\alpha')$	+8·5605		+8·8665		+8·8630		+9·0264		+9·0755		
	+9·8389	+0·69	+0·1452	+1·40	+0·1430	+1·39	+0·3066	+2·03	+0·3552	+2·27	Nat. No.
Corr. in N.P.D.		+5″87		+6″75		+6″53		+7″32		+7″71	Sum

(The terms B . sin δ' and p . sin $(P+\alpha')$ were computed by the slide-rule for sines.)

The corrections thus computed are those which apply to the mean place, and it will be found, on reference to the extract given in the previous section, that they were duly *subtracted* from the observed apparent elements. To the stars of the second and third subzones, no other terms than these were applied, but to stars within 4° of the Pole, and to the special polars throughout the work, the terms depending on 2 ☾ were also applied. The quantities to be applied to each star were extracted at sight from a table of double entry, of which the vertical arguments were the quantities $180-2\,☾+\alpha$ for every 4° and the horizontal arguments (in R.A.) the north polar distance for convenient intervals from 0° 45′ to 5°. This table is given further on. The terms of the second order were not actually applied to any stars, though the precaution was taken of computing their constants, for information concerning their actual amount. The terms thus omitted for the above five stars on April 17, are in fact, for

	2399	2421	2425	2444	2453	Arg.
In R.A.	s +0·024	s +0·027	s +0·037	s +0·040	s +0·035	2 ☾
	0·000	−0·001	−0·002	−0·004	−0·003	2 (R+α')
In N.P.D.	" −0·07	" −0·07	" −0·07	" −0·07	" −0·07	2 ☾
	+0·01	+0·01	+0·01	+0·01	+0·01	2 (R+α')

quantities about which there can be no hesitation.

The manner in which precession in the above formulæ has been computed introduces a slight inaccuracy which for the closer stars, such as the twenty special polars, required secondary correction as the distance of time from the epoch 1855·0 increased. The error arises partly from the neglect of a small quantity in one of the constants (see Appendix) and partly in using the elements α' and δ' instead of $\frac{1}{2}(\alpha+\alpha')$, $\frac{1}{2}(\delta+\delta')$, in its computation. It suffices to say that this error was corrected, wherever it was necessary, by the use of a subsidiary table in which the residual precession was given for the special polar stars. Such a table is given in the Appendix; where I have also shown that the correction required can be applied by an additional term depending on τ^2, in a more workmanlike manner than I was acquainted with while engaged on the reductions.

The formulæ used in the reduction of the 19 stars within 42′ of the Pole were the following, ω being the mean obliquity of date, and ω' the apparent:—

$$\omega = 23°.\ 27'.\ 28''{\cdot}86 \text{ for } 1854{\cdot}0 \qquad = 23°.\ 27'.\ 28''{\cdot}39 \text{ for } 1855{\cdot}0$$

$$\omega' = \omega + 9''{\cdot}2236.\cos ☊ - 0''{\cdot}0896.\cos 2☊ + 0''{\cdot}5507.\cos 2☉ + 0''{\cdot}0885.\cos 2☾.$$

The apparent R.A. and N.P.D. were converted into apparent longitude and latitude by the formulæ—

$$\sin \lambda = \cos \omega' . \cos \delta - \sin \omega' . \sin \delta . \sin \alpha .$$
$$\cos l = \sin \delta . \cos \alpha . \sec \lambda .$$

Precession in longitude = general precession $+ (\pi' - \pi) . \cos (l - \mathrm{M}) . \tan \lambda$,
. . . . . in latitude $= - (\pi' - \pi) . \sin (l - \mathrm{M})$
General precession for a tropical year $= + 50''\cdot254$; $\pi' - \pi = 0''\cdot4772$; $\mathrm{M} = 173^\circ\ 16'$;

Whence if τ be the difference of time between 1855·0 and the time of observation, expressed as a fraction of a tropical year,

Precession in longitude $= + 50''\cdot39 . \tau$ }
.. .. in latitude $= + 0''\cdot474 . \tau$ } (for $l = 90^\circ$ and $\lambda = 90 - \omega$)

Nutation in longitude $= 17''\cdot2491 . \sin \mathfrak{N} + 0''\cdot2073 . \sin 2\mathfrak{N} - 1''\cdot2695 . \sin 2\odot - 0''\cdot2041 . \sin 2\mathbb{C}$;
.. .. in latitude $= 0$;

Aberration in longitude $= - 20''\cdot4451 . \cos (\odot - l) . \sec \lambda$;
.. .. in latitude $= - 20''\cdot4451 . \sin (\odot - l) . \sin \lambda$;

in computing which quantities the mean longitude and latitude for each star (l, λ) were found by trial computation.

The sum of the above quantities being applied to the apparent longitudes and latitudes with reversed signs, and the mean of the resulting mean longitudes and latitudes taken, the mean R.A. and N.P.D. were computed by the formulæ—

$$\tan \alpha = \cos \omega . \tan l - \sin \omega . \sec l . \tan \lambda,$$
$$\sin \delta = \cos l . \cos \lambda . \sec \alpha ;$$

in which $\omega = 23^\circ.\ 27'.\ 28''\cdot39$.

The corrections applied to the observations of star n (see page 64) were for instance

In Longitude,				In Latitude,		
Prec.	Nut.	Aberr.	Total.	Prec.	Aberr.	Total.
$-45''\cdot74$	$-14''\cdot59$	$+37''\cdot84$	$-22''\cdot5$	$-0''\cdot43$	$+12''\cdot85$	$+12''\cdot4$
$-31''\cdot51$	$-16''\cdot03$	$-42''\cdot57$	$-90''\cdot1$	$-0''\cdot29$	$+10''\cdot72$	$+10''\cdot4$
$-31''\cdot10$	$-15''\cdot97$	$-44''\cdot02$	$-91''\cdot1$	$-0''\cdot29$	$+9''\cdot94$	$+9''\cdot7$
$-0''\cdot42$	$-12''\cdot86$	$+51''\cdot54$	$+38''\cdot8$	$0''\cdot00$	$+2''\cdot07$	$+2''\cdot1$
$+1''\cdot36$	$-12''\cdot08$	$+48''\cdot87$	$+38''\cdot2$	$+0''\cdot01$	$+6''\cdot29$	$+6''\cdot3$

The remainder of the process is for these stars so fully given on pages 63 and 64, that any one may retrace the calculations.

§ 9. *On the Elements of the 20 Special Polars.*

From the 21st of January 1854 till the end of April 1855, the three stars observable in daylight, namely Polaris, 51 (Hev) Cephei, and δ Ursæ Minoris, were taken, whenever weather and the hours of observation permitted, at their consecutive transits above and below the Pole, it being my intention to obtain independent evidence of the data for these stars on which all the other positions are ultimately founded*. A sufficient number of double transits for discussion having been procured, they were first treated on the supposition of the meridian and index error of the instrument remaining constant for the intervening interval of twelve hours, and the following mean positions for 1855·0 obtained —

	h m s	° ′ ″	
Polaris	1. 6. 31·27	1. 27. 48·84	by 23 double transits.
51 Cephei	6. 31. 6·62	2. 44. 51·28	„ 14 „
δ Urs. Min.	18. 19. 6·65	3. 24. 0·36	„ 18 „

* The reductions of the first zone were accordingly performed with approximate provisional values of the meridian and index errors, the residual amounts being afterwards applied along with the terms of the nutation depending on $2\mathbb{C}$, to which they have similar factors.

I next extracted all the double transits observed at Greenwich with the great transit-circle during the years 1851, '2 and '3, by the three observers Dunkin, Rogerson, and Henry; rejecting the observations of Mr. Henderson and all double R.As in which two observers had taken part. I thus found (allowing + 0^{s}·10 for annual proper motion of Polaris) —

	h m s		° ′ ″	
for Polaris	1. 6. 31·11	by 29 obs.	1. 27. 48·79	by 45 obs.
„ 51 Cephei	6. 31. 6·53	„ 22 „	2. 44. 51·38	„ 40 „
„ δ Urs. Min.	18. 19. 6·94	„ 45 „	3. 24. 1·40	„ 111 „

Similarly from the Oxford observations* of those years I derived —

	h m s	° ′ ″
51 Cephei	6. 31. 6·75	2. 44. 51·30
δ Urs. Min.	18. 19. 6·94	3. 24. 2·62

Guided by the results of Greenwich and Oxford, as a check on my own, I adopted the following elements:—

	h m s	° ′ ″
Polaris	1. 6. 31·10	1. 27. 48·85
51 Cephei	6. 31. 6·60	2. 44. 51·30
δ Urs. Min.	18. 19. 6·75	3. 24. 0·60

These six elements appear thoroughly satisfactory, with one exception, the N.P.D. of δ Urs. Min., about which all three authorities differ sensibly. Suspicious of division-errors having affected my own results, I took advantage of the stars 51 Cephei and δ Urs. Min. having nearly always been observed on the same days, to divide the results into three groups, in the first of which δ Urs. Min. below Pole is derived from 51 Cephei above Pole, secondly in the opposite circumstances, and thirdly again as in the first case, thus—

			° ′ ″
20 sums of the N.P.D. of δ Urs. Min.	below	and 51 Cephei above gave	6. 8. 51·84
20	above . . .	below . .	51·69
20	below . . .	above . .	52·23

Taking the N.P.D. of 51 Cephei as 2°. 44′. 51″·3, about which the agreement is perfect, there results for δ Urs. Minoris

3°. 24′. 0″·39 when above pole, and . . 0″·74 when below;

the discordance not being greater than is attributable to observation alone. Although with a doubt on my mind, which still remains, I considered that the Redhill observations would not bear a greater N.P.D. than the one adopted above, and I let it stand.

The position of λ Urs. Min. was next found to be —

R.A. = 20^{h}. 8^{m}. 31^{s}·43 N.P.D. = 1°. 7′. 27″·63

from observations on five nights on which the instrumental errors had been deduced from consecutive transits. Again from 24 observations at Redhill on nights when δ and λ had both been favourably obtained, taking δ as above, there resulted

N.P.D. = 1°. 7′. 27″·14

From the Greenwich observations of 1851, '2, and '3, I derived

20^{h}. 8^{m}. 31^{s}·74 by 30 obs. and 1°. 7′. 27″.67 by 80 obs.

and from the Oxford observations I obtained R.A. = 20^{h}. 8^{m}. 30^{s}·46.

I accordingly adopted at first the elements

R.A. = 20^{h}. 8^{m}. 31^{s}·50 N.P.D. = 1°. 7′. 27″·40

although I afterwards diminished the R.A., as will be seen.

In obtaining from these four stars the remaining sixteen of my special list, I first computed very approximate positions of each from a limited number of observations reduced by meridian

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* In quoting the above as my friend's results, I ought perhaps to repeat that they were the numbers which I myself inferred from certain double transits, Mr. Johnson's concluded elements for 1855·0 being

	h m s	° ′ ″
for Polaris . . .	1. 6. 30·28 . . .	1. 27. 48·9
„ 51 Cephei . . .	6. 31. 6·79 . . .	2. 44. 51·3
„ δ Urs. Min. . . .	18. 19. 7·35 . . .	3. 24. 1·9 (by 170 obs.)

and index errors derived from the four stars previously discussed; regarding the positions thus derived as first results, to receive in the next place final small corrections. To determine these, a table was formed, similar to the printed one, of instrumental errors, in which values of m, and $P\ p$ were derived from the provisional elements of all twenty stars. When finished, an unexpected difficulty arose in deciding on the origin and best mode of treating a systematic discordance which was exhibited by the values deduced from observations made by day. It was found that, taking the mean, the day-results required the corrections—

for	Polaris	of	$+1''.3$ in m,	and $-1''.3$ in P. p.
	51 Cephei		$+0.9$,	-0.9
	δ Urs. Min.		$+0.9$,	-0.9

to render them comparable with night-results. The first point to notice respecting these corrections is that, whether they are applied or not to the day-observations of double transits, the concluded mean positions of the three stars remain the same, provided that an equal number of cases are taken in which the day-transits took place above the Pole and below the Pole; and that, as this was nearly the case with the observations from which the actually adopted positions were derived, the preceding results remain unaffected by any supposition respecting their cause. This cause I have not found it so easy to settle. It appeared to be attributable either to a diurnal variation in the position of the instrument, stable as it was, or to a difference in the observer's estimation of the position of the star relatively to the wires, under different degrees of illumination. It might have been naturally supposed to arise from a daily variation caused by diurnal range of temperature affecting the metallic portions of the Ys and microscopes (and the sign of the corrections required by the day-values of m so far agrees), but that the polar point readings exhibit no tendency to an annual variation, and that an examination of the 'excesses' of the subzone-observations of several of our longest and most suitable nights lends no support to the hypothesis. On the other hand, the artificial illumination of the lamp is thrown down the telescope so exactly in the direction by which daylight enters, that I cannot see how the effective image of a wire can be different under the two circumstances.* Being unable at the time, and still so, to satisfy myself, or to offer any explanation of the discordance which would satisfy another, I have left the matter open as far as the terms are concerned which I have used, and have contented myself with very nearly annihilating any effect which the discordance could have on the results of the Catalogue, by applying to all day-values of m and P. p the average corrections stated above; taking care from the month of May 1855 that the determining stars used should be observed in all cases under artificial illumination. The values which have thus been corrected, in deducing the meridian and index errors for application, are distinguished in the 'Table of instrumental errors' by the letter d being appended.

Returning to the subject of the final corrections required by the provisional elements of the twenty stars, I proceeded to tabulate for each the difference between the values of m and P. p deduced from them singly and those adopted for the night from the whole of those observed, separating the differences into two classes of 'above' and 'below Pole' results. A moment's consideration will show how the final corrections of the assumed elements are thence deducible, and that while the results finally obtained depend partially on the contiguous stars which thus receive corrections, they depend mainly on the fundamental elements of the four principal stars, which were set out from. The table over-page contains the corrections which were found to be required, with a column exhibiting the mean discordance of a single datum of each:—

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* My experienced friend the late Rev. R. Sheepshanks on one occasion related to me a very similar discordance which he encountered in his experiments on the measurement of standards of length. The case was this:—A standard rod carrying on its upper surface, and near to its two ends, a fine dot engraved on a surface of gold was floated horizontally in a trough of mercury. Vertically above each dot was a reading microscope attached to a massive stone pier. Opposite to each microscope and at right angles to it, a horizontal channel was cut through the pier, and at the further side was a socket for a lamp. Two lamps were provided, to all appearance precisely of the same size and make, which fitted either socket, and the light of each was transmitted to its respective dot by precisely similar means. Yet if measures were first made with lamp A in socket A, and lamp B in socket B; and then lamp A placed in socket B, and lamp B in socket A, and the measures repeated, the apparent length of the rod was sensibly different.

Star.	Corrections in		Mean discordance of single values of		Obs.	Star.	Corrections in		Mean discordance of single values of		Obs.
	R.A.	N.P.D.	m	P. p			R.A.	N.P.D.	m	P. p	
...	... ...	...	...	...	...		s	"	"	"	
	s	"	"	"		12	+0·04 × 2·55	+0·09	±0·40	±0·30	15
1	+0·10 × 2·18	−0·09	±0·31	±0·31	20	...	... ...	...	...	...	...
2	+0·04 × 2·60	−0·10	±0·30	±0·38	57	...	... ...	...	...	...	...
...	... ...	...	...	...	...	13	+0·02 × 2·43	−0·06	±0·41	±0·56	13
3	+0·07 × 1·87	+0·19	±0·42	±0·44	9	...	... ...	...	...	...	...
...	... ...	...	...	...	...	14	−0·02 × 1·72	−0·04	±0·27	±0·53	12
4	−0·03 × 0·79	+0·04	±0·30	±0·64	16	...	... ...	...	...	...	...
...	... ...	...	...	...	...	15	−0·07 × 0·89	−0·01	±0·38	±0·44	18
5	−0·18 × 0·78	−0·13	±0·20	±0·49	14	...	... ...	...	...	...	...
6	−0·11 × 1·18	−0·14	±0·27	±0·47	15	...	... ...	...	...	...	...
...	... ...	...	...	...	...	16	+0·06 × 1·12	+0·02	±0·34	±0·40	58
7	−0·02 × 1·39	+0·02	±0·30	±0·38	45	...	... ...	...	...	...	...
8	+0·15 × 3·97	−0·06	±0·32	±0·47	27	...	... ...	...	...	...	...
...	... ...	...	...	...	...	17	−0·03 × 3·40	+0·04	±0·28	±0·43	28
...	... ...	...	...	...	...	18	−0·14 × 1·07	0·00	±0·43	±0·55	19
9	+0·20 × 1·90	+0·03	±0·37	±0·77	16	...	... ...	...	...	...	...
...	... ...	...	...	...	...	19	−0·22 × 1·43	−0·07	±0·38	±0·34	22
10	+0·01 × 2·43	−0·14	±0·39	±0·27	17	...	... ...	...	...	...	...
...	... ...	...	...	...	...	20	0·00 × 1·09	−0·15	±0·40	±0·30	21
11	+0·11 × 1·06	−0·02	±0·32	±0·40	24	...	... ...	...	...	...	...

The process above described was twice repeated for the sake of accuracy, the corrections above given being those which resulted from the second approximation, and the finally adopted elements of the twenty stars being those which are printed at the beginning of section 7.

The 'Table of instrumental errors' printed at the end of this Introduction was then finally calculated with the now *adopted* elements of the stars, in the form in which it is published; and the values of the meridian errors and polar point readings contained in it afford so much the best means of judging of the accuracy of the elements from which they result, as well as the best means of ascertaining whether those elements are susceptible of any further improvement, that I have not thought it necessary to print the R.As and N.P.Ds of the special polar stars in a more direct form.

On examining the columns of 'mean discordances of single values of m and P. p', it will be seen that stars as distant from the Pole as 4 degrees and even more, present no greater discordances than those between 1 and 2 degrees. As there is the inconvenience of much more time being required for the observations of the more slowly moving stars, I should, in making a second selection of stars for similar purposes, be induced to choose them as nearly as practicable within the limits of 2° 30′ and 4° 0′.

§ 10. *On the Magnitudes of the Stars.*

It was my habit to make it a part of every meridian observation to estimate as nearly as I could the relative brightness of a star by assigning to it a number indicative of its class, commonly called its magnitude, and these magnitudes are printed in the subzones (without correction) along with the results of the observations. The usual nomenclature was followed with decimal subdivisions, and it was my aim to conform as nearly as possible to the average scale of the principal previous observers. My habit of judging of the class of a star had however been formed with an object-glass of 6·3 inches aperture, while engaged in the observation of minor planets and comets differentially, and for that purpose making frequent use of comparison-stars from the zones of Bessel and Argelander; and a transition to one of 5·0 inches necessarily destroyed a good deal of the confidence I had acquired. Leaving the estimations to be subsequently corrected, I commenced by assigning the magnitude 10·0 to those stars which admitted of precise observation in a field in which just so much artificial light was admitted as was necessary to make the wires sharply visible, assigning that of 11·0 to the very faintest stars I could, under the most favourable circumstances, observe by oblique vision with the illumination reduced to the utmost, and ascending upwards by half magnitudes as consistently as my former habits of estimation enabled me. It was my belief that the magnitudes of the great mass of the stars, (those of the lower classes,) would require but little alteration, while it was throughout

my intention to revise the scale of the brighter stars at the close of the work, by the best method which might present itself to me.

With this object, about 250 of the brighter stars were laid down to scale on a map, and those were next carefully picked out which were found by me to be visible without teleseopic aid. The relative brightnesses of these stars were by comparison on three or four fine nights assigned by eye-estimation; and, with occasional slight modification after reference to the magnitude assigned by Mr. Johnson, are thus printed in the final Catalogue with the distinguishing sign of an asterisk. The remaining stars in the map were next checked over with a little telescope having a triple object-glass of 2·75 inches diameter (*reduced to* 1·0 *inch*), and about 14 inches focal length, and inconsistencies remedied by striking out some stars and inserting others, till the map which forms my tenth chart was brought to its present condition. I then proceeded to apply the method of extinguishing apertures, so successfully used by Mr. Pogson and Mr. Dawes, and for this purpose I had the little telescope just mentioned provided with an apparatus of my own contrivance, by which I could vary the aperture in a moment, by touching a lever, to a hexagon of any size within the limits of the glass itself, and read off its dimensions on a scale of equal parts. If d be the distance in parts of an inch between opposite sides of the hexagon, and s the scale-division, it was found that d and s were related by the formula—

$$d = \overset{\text{in.}}{0{\cdot}081}.\, s - \overset{\text{in.}}{0{\cdot}0002}.\, s^2.$$

The next question is—if M be the assigned magnitude of the least star steadily visible with aperture A, what will be the limiting aperture of the star whose assigned magnitude is less or greater by one or more magnitudes. Or, generally, if

$$\tfrac{1}{2}\,\text{Log. R} = \frac{\text{Log. A} - \text{Log. } a}{\text{M} - m},$$

what ratio R must we adopt to satisfy best on the whole the existing conventional scales and to extend them consistently. Mr. Pogson adopts R = 2·512 and $m = 9{\cdot}2$ for $a = 1{\cdot}00$ inch, as his constants, and obtains resulting magnitudes with great precision and consistency. I preferred after some trials to vary these numbers a little, by adopting for my own eye and telescope—

$$\text{R} = 2{\cdot}75 \qquad \text{and } m = 9{\cdot}0 \qquad \text{for } a = 1{\cdot}00 \text{ inch.}$$

The two formulæ then give the following table:—

s.	*d.*	*a.*	*m.*
1	·081	·085	—
2	·162	·170	5·5
3	·242	·254	6·3
4	·323	·339	6·9
5	·400	·420	7·3
6	·479	·503	7·6
7	·557	·585	7·9
8	·635	·667	8·2
9	·713	·749	8·4
10	·790	·830	8·6
11	·866	·909	8·8
12	·943	·990	9·0
13	1·019	1·070	9·1
14	1·095	1·150	9·3
15	1·170	1·229	9·4
20	1·540	1·617	9·9
25	1·900	1·995	10·4

I had the satisfaction of finding that the use of my hexagonal diaphragm, with the above table for converting my observed scale-divisions into magnitudes, was consistent with the average 6th magnitudes of those stars given by Argelander in his *Uranometria Nova*, which came within my region at the top of the scale, and with Bessel's 9th and 10th magnitudes at the lower end, and that, with care in application and a little allowance for the varying clearness of the air on different nights, the intermediate magnitudes could be measured with a risk of error of not more than a third or half a magnitude. I accordingly measured all the stars previously laid down on my map as visible with a circular aperture of 1 inch, repeating the measures on different nights here and there, and going over a portion of the results a second time. The magnitudes which have been assigned, or partly assigned, by the method of limiting apertures, are in the final Catalogue distinguished by the sign † after the magnitude-number.

For the remainder, corrections were applied to the mean of the transit-circle estimations according to the following rules :—

Deduct 0·2 from Mags. between 11·0 and 10·6,

...	0·2	...	...	10·5 ...	10·1,
...	0·3	...	...	10·0 ...	9·6,
...	0·4	...	...	9·5 ...	9·1,
...	0·5	...	...	9·0 ...	8·6,
...	0·6	...	...	8·5 ...	8·1,

trials having satisfied me that the above corrections would improve the original magnitudes, and reduce my whole scale to very fair consistency. I need not conceal that a greater amount of labour on this portion of my subject would have enabled me still further to improve the results, but it was no part of my plan to add to meridian observation researches in Photometry.

§ 11. *On the Arrangement of the Subzones.*

In the three sections which commence on page 67 are given the results of every observation of Catalogue-stars, without the suppression of any on account of supposed or apparent inaccuracy; and in all cases where an observation has been rejected or allowed half weight in fixing on the concluded position of the star, the circumstance is pointed out in the foot-notes.

The numbers in the second column, indicating the date of the observation, may be readily converted into the usual reckoning of year, month, and day, by reference to the 'Table of instrumental errors' at the end of the Introduction, in which the two are purposely confronted. The arrangement followed appeared the most concise and convenient for deriving the mean epoch in cases where the existence of proper motion might afterwards require the date of observation to be taken into account.

In general the concluded position has been found by simply taking the arithmetical mean of the single results, it being in the power of any one referring to a particular star to make any modification he may deem necessary. To the single values of each element are added the difference of each from the concluded mean, expressed in seconds of arc of a great circle, partly that by ocular inspection the quality of the results here published might be readily estimated, and partly to facilitate the future discussion of special cases in which stars may be found to exhibit secular proper motions, the feature which it is one of the principal uses of such a work as the present to bring to light. For it will be perceived that it is in the power of any one by this means to assemble the discordances peculiar to any one night, and inquire whether they exhibit progression or dislocation of value, or a general mean excess or defect compared with the results of other nights. It did not appear to me advisable that the results obtained by the process described in sections 7 and 8 should as a mass be modified by further discussion of this sort at my own hands, as it would have been by no means easy to put in evidence the steps of the after-processes, and in that case have endangered their character as fair derivations from observation. As they are actually printed, a person of sufficient application may, if he pleases, treat the whole as a mass of observations, cleared of corrections for wires, screws, clock-errors, refraction, precession, nutation, and aberration, and re-investigate to any extent the assumed elements of the fundamental stars, and the residual corrections required for instrumental error. For instance, on 1855, Feb. 10 (day 405), 102 positions were obtained, which, when arranged in successive groups of 10 (rejecting the first and last star), exhibit the following excesses of the single results of Feb. 10 over the means of that and other nights.

In Right Ascension.

″	″	″	″	″	″	″	″	″	″
+1·2	−0·5	−0·9	−0·7	+1·5	−0·6	−0·5	−0·1	−1·8	+0·6
+0·3	+1·1	+0·3	0·0	+0·3	−0·6	+0·6	−0·8	+1·3	−0·1
+0·9	−0·2	+1·2	+0·8	+0·4	−1·3	−0·3	−2·1	−0·2	+0·8
−0·1	+1·0	+1·6	−1·0	+1·2	+0·3	−0·7	−1·1	+1·5	−0·6
+1·7	−0·8	+1·6	+0·6	+1·2	−0·7	−0·8	−0·4	−0·4	−0·5
+0·8	−1·3	−1·4	+1·1	+0·4	+0·8	−0·6	+0·3	−0·4	−0·6
−0·5	0·0	+0·5	+1·3	+1·7	+0·6	−0·3	0·0	+0·1	+0·1
+1·6	+2·2	−0·9	+0·6	−0·1	+0·1	−1·0	+0·2	−0·6	−1·2
0·0	+0·2	+0·3	+0·8	0·0	−0·9	−0·5	−1·5	+0·3	−0·4
+0·5	+0·7	−0·5	+0·5	+1·5	−0·3	−0·4	+1·4	−1·6	−0·2
+0·64	+0·24	+0·18	+0·40	+0·81	−0·26	−0·45	−0·41	−0·18	−0·21

In North Polar Distance.

″	″	″	″	″	″	″	″	″	″
+0·5	+0·3	+0·7	+0·5	+0·9	+1·3	+0·5	+0·8	+1·1	0·0
+0·6	−0·5	+0·5	+0·7	+0·9	−0·1	+0·1	+0·3	+0·9	−0·5
+0·9	0·0	−1·2	+0·8	−0·1	+0·3	+1·8	+1·9	−0·2	+0·1
+0·8	+2·0	−1·2	+0·2	+0·4	+0·6	+0·7	−0·1	+0·4	+0·5
+0·7	+1·5	−1·5	+0·3	+0·4	+0·9	+1·4	+0·6	+0·1	+1·0
+1·1	−0·5	+0·3	+0·7	−0·2	+0·5	+1·3	+1·0	+0·5	+0·1
−0·7	+0·4	−0·2	+0·5	+0·3	−1·3	+0·8	−0·1	+0·1	+0·4
−0·8	−1·2	−0·7	+2·6	−0·4	−2·7	−0·6	+0·2	−0·2	+0·4
−0·2	+1·4	−0·4	+0·9	+0·1	+0·9	+0·4	+0·8	+0·3	+0·8
−1·0	+1·6	−0·6	+0·5	+0·3	+0·2	+0·5	+0·2	+2·7	−0·2
+0·19	+0·50	−0·43	+0·77	+0·26	+0·06	+0·69	+0·56	+0·57	+0·26

If in the first place the sums of all the excesses be taken without regard to sign, they will be found to be 73″·6 for the 100 R.As, and 69″·1 for the 100 N.P.Ds, giving $0''\cdot736 \times \sqrt{\frac{3}{2}} = 0''\cdot90$, and $0''\cdot691 \times \sqrt{\frac{3}{2}} = 0''\cdot85$ as the average discordance of a single R.A. and N.P.D. That the mean errors of observation alone are less than these quantities will appear at once on examining the values of the preceding groups taken with regard to sign, from which it will found that the R.A. excesses exhibit a mean amount of +0″·08 uncorrected, with a marked progression of value increasingly negative, and the N.P.D. excesses a mean amount of +0″·34 uncorrected, with a slight tendency to progression of value increasingly positive. Upon this point it appears to me more proper that another should pronounce. The directions in which the above excesses show a tendency to progress would, as far as one instance goes, confirm the idea that the discrepancies mentioned in section 9 had their origin in a diurnal movement of the instrument; and if a sufficient number of cases could be collected with unexceptional circumstances, this process of examination might be valuable; but from what I have tried, it appears that a series of observations of special stars throughout a year would be required to clear up the question.

§ 12. *On the Engraved Charts.*

In the maps first made for the purpose of forming the provisional Catalogue, and which were printed by the Anastatic process, about one seventh part more stars were given than in those engraved on copper which accompany the volume. There would have been no difficulty in inserting the whole in the final copies; but inasmuch as such charts are frequently taken up by the observer for the selection of a comparison-star in the differential observation of some comet or other body, it appeared to me likely to be more convenient to him to have only those stars laid down whose positions are actually catalogued. I have therefore omitted those stars which were found to be too faint to admit of observation with the transit-circle, and have laid down the remainder from the recorded elements on the copper plates myself, with a graduated frame of sufficient accuracy for the purpose.

A tenth chart is added of the stars which I found to be visible in a dark field with the one-inch aperture applied to the little telescope mentioned before. Observers will find it convenient in watching for variability of light, as well as in comparing the apertures required by different eyes for equal penetrability. The date of its construction is June and July, 1857.

§ 13. *On the Comparisons with the Positions of certain stars observed by Professor Schwerd, of Speyer, and Edward Cooper, Esq., of Markree.*

It was some months after I had entered upon the present work that I became aware that Professor Schwerd had directed his attention to the circumpolar region in the years 1826, 1827, and 1828, and again some months before I learnt that a reduction of his Speyer observations was contemplated by Mr. Oeltzen at the Vienna Observatory. So soon as I was able to procure a copy of Mr. Oeltzen's Catalogue in the autumn of the year 1856, I perceived that the interval between the epochs 1828 and 1855 would be sufficient to allow of satisfactory comparison of

positions for the detection of the more conspicuous proper motions, and that Professor Schwerd's results were of a quality which would repay the labour required. I therefore proceeded to form a catalogue of mean positions from Mr. Oeltzen's separate results, for the stars which lay within my limits of polar distance, and to reduce them by applying precession to the year 1855·0. In cases where manifest discrepancies existed I put myself in communication with Mr. Oeltzen, who very obligingly re-examined his calculations and the original entries, and thus enabled me to remove many previous defects, and present that portion of Professor Schwerd's catalogue which was in common with my own in a final form. The catalogue thus arranged, with the corresponding positions for 1855·0, is accordingly printed at the end of this volume, with a notification in each case where alterations have been made on Mr. Oeltzen's authority. A few cases of doubt still remain, where Professor Schwerd's positions depend on single observations, which cannot now be cleared up. Of the 680 stars observed by Professor Schwerd, one only was ultimately found to be wanting in the Redhill Catalogue; and on reference to the heavens, no visible star was found in the position indicated. The place depends on a single entry, and neither Mr. Oeltzen nor I have been able to trace what error was made. The comparison of the two catalogues accordingly bore satisfactory testimony to the completeness of my survey, and I have every reason to think that the result would have been the same had Professor Schwerd's instrument carried him further down the scale of magnitudes. The formulæ used in applying precession were those first given, I believe, by Bohnenberger, and brought into use by Bessel.

α and δ being the R.A. and N.P.D. for 1828·0

α' and δ' .. .. 1855·0

$$z+\nu = +10'.\ 21''{\cdot}5 \qquad z'-\nu' = +10'.\ 22''{\cdot}5 \qquad \theta = +541''{\cdot}4$$

$$A = \alpha + (z+\nu)$$

$$p = \theta.\ \sin 1''.\ \text{cotan}\ \delta$$

$$\tan (A'-A) = p.\ \cos A\ \frac{1}{1-p.\ \cos.\ A}\ .\ \tan A$$

$$\alpha' = (A'-A)+A+(z'-\nu')$$

$$\delta' = \delta-\theta.\ \cos \tfrac{1}{2}(A'+A).\ \sec.\tfrac{1}{2}(A'-A).$$

The calculations were conducted in the following manner:—

Oeltzen's No.	589	590	592	594	596
1828·0 R.A.	$9^h.\ 39^m.\ 9^s{\cdot}4$	$9^h.\ 39^m.\ 36^s{\cdot}9$	$9^h.\ 40^m.\ 23^s{\cdot}0$	$9^h.\ 43^m.\ 32^s{\cdot}0$	$9^h.\ 44^m.\ 27^s{\cdot}1$
1828·0 N.P.D.	$8°.\ 47'.\ 14''{\cdot}5$	$5°.\ 15'.\ 51''{\cdot}2$	$3°.\ 20'.\ 29''{\cdot}4$	$0°.\ 20'.\ 3''{\cdot}2$	$1°.\ 16'.\ 18''{\cdot}4$
α	144. 47. 20·9	144. 54. 14·0	145. 5. 44·3	145. 53. 0·0	146. 6. 47·1
$\alpha+(z\times\nu)$	144. 57. 42·4	145. 4. 35·5	145. 16. 5·8	146. 3. 21·5	146. 17. 8·6
L. θ. sin 1″	7·41910	7·41910	7·41910	7·41910	7·41910
L. cotan δ	0·81085	1·03556	1·23369	2·23408	1·65364
L. cos A	−9·91316	9·91377	−9·91478	−9·91886	−9·92003
Log n.	−8·14311	−8·36843	−8·56757	−9·57204	−8·99277
Log 1÷(1−n)	9·99400	9·98997	9·98424	9·86223	9·95926
L. tan A	−9·84584	−9·84399	−9·84089	−9·82807	−9·82431
L. tan (A′−A)	+7·98295	+8·20239	+8·39270	+9·26234	+8·77634
$A+(z'-\nu')$	145. 8. 4·9	145. 14. 58·0	145. 26. 28·3	146. 13. 44·0	146. 27. 31·1
A′−A	+0. 33. 3·2	+0. 54. 46·8	+1. 24. 53·8	+10. 22. 4·0	+3. 25. 9·8
α'	145. 41. 8·1	146. 9. 44·8	146. 51. 22·1	156. 35. 48·0	149. 52. 40·9
$\frac{1}{2}(A'-A)$	+0. 16. 31·6	+0. 27. 23·4	+0. 42. 26·9	+5. 11. 2·0	+1. 42. 34·9
$\frac{1}{2}(A'+A)$	145. 14. 14·0	145. 31. 58·9	145. 58. 32·7	151. 14. 23·5	147. 59. 43·5
Log θ	−2·73353	−2·73353	−2·73353	+2·73353	−2·73353
L. cos $\frac{1}{2}(A'+A)$	−9·91462	−9·91617	−9·91845	−9·94282	−9·92840
L. sec $\frac{1}{2}(A'-A)$	0	2	3	178	19
Log ($\delta'-\delta$)	+2·64815	+2·64972	+2·65201	+2·67813	+2·66212
$\delta'-\delta$	+ 7. 24·8	+ 7. 26·4	+ 7. 28·8	+ 7. 56·6	+ 7. 39·3
1855·0 R.A.	$9^h.\ 42^m.\ 44^s{\cdot}5$	$9^h.\ 44^m.\ 38^s{\cdot}9$	$9^h.\ 47^m.\ 25^s{\cdot}5$	$10^h.\ 26^m.\ 23^s{\cdot}2$	$9^h.\ 59^m.\ 30^s{\cdot}7$
1855·0 N.P.D.	$8°.\ 54'.\ 39''{\cdot}3$	$5°.\ 23'.\ 17''{\cdot}6$	$3°.\ 27'.\ 58''{\cdot}2$	$0°.\ 27'.\ 59''{\cdot}8$	$1°.\ 23'.\ 57''{\cdot}7$

It will be seen on reference to the Appendix that the accurate formulæ were a little departed from, and by the examples of the next section to what extent the results would be affected. The process followed appeared sufficient for the purpose of indicating where proper motion existed to sensible amount; and as the computer would always wish to push his examination of a case of interest further, I left it to him to repeat the calculation with greater accuracy if he thought it needful.

The positions of 50 stars within 2° of the Pole observed at Markree by Mr. Cooper and Mr. Graham, reduced to the year 1842·0, and published in Schumacher's *Astron. Nachrichten*, No. 490, were subjected to a similar reduction, and are also republished at the end of this volume. The constants used for this purpose were

$$z+\nu = +4'.\ 58''{\cdot}9, \qquad z'-\nu' = +5'.\ 0''{\cdot}1, \qquad \theta = +260''{\cdot}74.$$

One star occurred among them which is not in the Redhill Catalogue; but it proved on reference to have been on my working list and rejected as too faint for my optical power, Mr. Cooper's instrument being superior to mine in that respect.

Other collections of similar observations have, either from the number of positions being scanty, or their accuracy inferior, not tempted me at the present time to increase the work by further additions of the kind.

§ 14. *On the Application of Precession to the Positions of this Catalogue.*

I have thought it best in this instance not to add the usual columns of constants of the first and second-order-terms of the expanded formulæ for precession. The cases are so numerous in which the calculation thus conducted would after a short time cease to be sufficiently accurate, that I have preferred to suppress these constants altogether, and provide the computer only with the constants adapted to the accurate formulæ for stars near the Pole. With the subjoined examples for reference, where familiarity has not been previously attained, and the auxiliary tables given immediately before the Catalogue, no particular difficulty can attend their application.

1. Formulæ for deriving the mean Right Ascension and North Polar Distance of a fixed star at one epoch from those of another epoch, directly.

Let α and δ be the star's R.A, and N.P.D. at time t

$$A = \alpha + (z+\nu),$$

$$p = \sin\theta.\ \operatorname{cotan}\delta + \cos A.\ (1-\cos\theta),$$

$$\tan(A'-A) = p.\cos A.\ \frac{1}{1-p.\cos.A}.\ \tan A,$$

$$\alpha' = A' + (z-\nu'),$$

$$\tan\tfrac{1}{2}(\delta'-\delta) = -\tan\tfrac{1}{2}\theta.\cos\tfrac{1}{2}(A'+A).\sec\tfrac{1}{2}(A'-A),$$

$(z+\nu)$, $(z'-\nu')$, and θ being certain constants; then will α' and δ' be the stars R.A. and N.P.D at time t'. The form in which these formulæ are given in the previous section will, however, in nearly all cases be found the most convenient and sufficiently precise. The constants $(z+\nu)$, $(z'-\nu')$, and θ may be derived from the following expressions with great accuracy for dates within a century and more of the year 1800, to which Dr. Peters's elements are adapted;—

$$z+\nu = +23''{\cdot}0311.\ (t'-t) - 0''{\cdot}0001922.\ t^2 - 0''{\cdot}0000497.\ t'^2,$$

$$z'-\nu' = +23\cdot0311.\ (t'-t) + 0\cdot0000497.\ t^2 + 0\cdot0001922.\ t'^2,$$

$$\theta = +20\cdot0611.\ (t'-t) + 0\cdot0000432.\ t^2 - 0\cdot0000432.\ t'^2,$$

in which t and t' are reckoned in tropical years from 1800·0; t being the year for which the star's place is given, and t' that for which it is to be computed.

An expanded Table of Constants, adapted to the year 1855, computed from these expressions, is given immediately before the Catalogue.

2. Formulæ for deriving the mean Longitude and Latitude of a fixed star at one epoch from those of another epoch, when the star is not situated near the pole of the ecliptic.

Let l and λ be the star's longitude and latitude at time t

then will $\quad l' = l + (\psi_{,}' - \psi_{,}) + (\pi' - \pi).\ \tan\lambda.\ \cos(l - \mathrm{M}),$

and $\quad \lambda' = \lambda - (\pi' - \pi).\ \sin(l - \mathrm{M}),$

be its longitude and latitude at time t'.

The necessary constants follow from the expressions —

$$\psi_{,}' - \psi_{,} = +50''\cdot2411\ (t'-t) + 0''\cdot0001134\ (t'-t).\ (t'+t)$$

$$\pi' - \pi = +\ 0\cdot4766\ (t'-t) - 0\cdot0000034\ (t'-t).\ (t'+t)$$

$$\mathrm{M} = 172^\circ.\ 45'.\ 32'' + 50''\cdot2411.\ t - 8''\cdot504\ (t'+t).$$

t and t' being reckoned from 1800·0 as before.

As a first example we will compare the results of the two sets of formulæ, by applying them to star No. 3023 of this catalogue, by first computing from the mean R.A. and N.P.D. for 1855·0 those for 1900·0, and converting the latter into longitude and latitude, and next by converting the R.A. and N.P.D. for 1855·0 into longitude and latitude, and thence computing the latter elements for 1900·0.

Assuming $\alpha = 19^{\mathrm{h}}.\ 56^{\mathrm{m}}.\ 5^{\mathrm{s}}\cdot0 = 299^\circ.\ 1'.\ 15''\cdot0$ and $\delta = 0^\circ.\ 44'.\ 44''\cdot0$ for 1855·0

mean obliquity $\omega = 23^\circ.\ 27'.\ 28''\cdot39$ for 1855·0

$\omega' = \ldots\ \ldots\ \ldots\ 7''\cdot06$ for 1900·0;

by the constants of the last line of the expanded Table mentioned above, and a calculation similar to the examples of the previous section, there will be found

$\alpha' = 280^\circ.\ 15'.\ 32''\cdot3$ and $\delta' = 0^\circ.\ 39'.\ 36''\cdot3$ for 1900·0

whence by the formulæ

$$\sin\lambda' = \cos\omega'.\ \cos\delta' - \sin\omega'.\ \sin\delta'.\ \sin\alpha'$$

$$\cos l' = \sin\delta'.\ \cos\alpha'.\ \sec\lambda'$$

will be found $\quad l' = 89^\circ.\ 41'.\ 48''\cdot0 \qquad \lambda' = 67^\circ.\ 11'.\ 50''\cdot2$ for 1900·0.

In the next place by the same formulæ applied to the elements of 1855·0 will be found

$l = 89^\circ.\ 4'.\ 1''\cdot1$ and $\lambda = 67^\circ.\ 11'.\ 28''\cdot8$ for 1855·0:

Precession in longitude $= 2261''\cdot64 + 5''\cdot27 = +37'.\ 46''\cdot9$

——————— latitude ..... $= +\ 0'.\ 21''\cdot4$

Whence $\quad l_{,}' = 89^\circ.\ 41'.\ 48''\cdot0 \qquad \lambda_{,}' = 67^\circ.\ 11'.\ 50''\cdot2$ for 1900·0,

identical with the former result.

As a second example the App R.A. and N.P.D. of the same star, for Greenwich mean midnight on the 20th of Feb. 1860, shall be computed by both routes.

The constants now being $\quad (z+\nu) = +1'.\ 54''\cdot4, \quad (z'-\nu') = +1'.\ 56''\cdot0 \quad \theta = +100''\cdot28$

$\alpha' = 19^{\mathrm{h}}.\ 48^{\mathrm{m}}.\ 43^{\mathrm{s}}\cdot14, \quad \delta' = 0^\circ.\ 43'.\ 56''\cdot75$ for 1860·0

The star constants (see page xix) for 1860, Feb. 20·5 are

A	B	p	P	q	Q	r	R
+19″·27,	+7″·16,	+10″·46,	233°.16′,	+19″·15,	210°.29′,	0″·00179,	79°.30′;

whence, by computation similar to that on page xxi, we find

	m	s		″
principal terms of p. n. and ab.	−2.	16·93	.. .. ..	+12·08
terms depending on 2ℭ	−	0·43	.. .. ..	− 0·02
terms of the second order	+	0·60	.. .. ..	+ 0·04
Correction in R.A. =	−2.	16·76	in N.P.D. =	+12·10

and for the apparent place of the star

R.A. ... $19^{\mathrm{h}}.\ 46^{\mathrm{m}}.\ 26^{\mathrm{s}}\cdot4$, N.P.D. ... $0^\circ.\ 44'.\ 8''\cdot85$.

Again, from 1855·0 to 1860, Jan. $0^d \cdot 628 = 5 \cdot 0000$ tropical years
thence to Feb. $20 \cdot 500 = 0 \cdot 1392$ .....

Annual precession in longitude for mean year $= 50'' \cdot 2541 + 0'' \cdot 1154$
.. .. latitude .. .. $= +0'' \cdot 4748$

$d\psi = +14'' \cdot 24 \qquad d\omega = +6'' \cdot 22 \qquad \odot - l = 242°.\ 29'$

As before for 1855·0 ..... $l =$	89°.	4′.	1″·1	..... $\lambda =$	67°. 11′. 28″·8
$5 \cdot 139 \times 50'' \cdot 370 =$	+ 4.	18 ·87	$\times 0'' \cdot 4748 =$	+	2 ·43
Nutation =	+	14 ·24	.. .. =		0 ·00
	89.	8. 34 ·21		67. 11. 31 ·23	
Aberration =	+	24 ·37	.. .. =	+	16 ·71
1860. Feb. 20·5, App. $l =$	89.	8. 58 ·58	App. $\lambda =$	67. 11. 47 ·94	

whence, reconverting with the apparent obliquity $= 23°.\ 27′.\ 32'' \cdot 24$, by the formulæ

$$\tan \alpha = \cos \omega . \tan l - \sin \omega . \sec l . \tan \lambda,$$
$$\sin \delta = \cos \lambda . \cos l . \sec \alpha,$$

there will be found

App R.A. ... $19^h.\ 46^m.\ 26^s \cdot 6$ App N.P.D. ... $0°.\ 44′.\ 8'' \cdot 84$

which differs from the former result in R.A. by $0'' \cdot 04$ of a great circle.

The third and last example shall be of the process of taking account of proper motion, and the star Polaris will serve for illustration as well as any. We will compare the observed positions of Bradley (from the *Fundamenta*), of Bessel, and of this Catalogue. They are—

1755·0	R.A. =	h 0.	m 43.	s 42 ·3	=	° 10.	′ 55.	″ 34 ·5,	N.P.D. =	° 2.	′ 0.	″ 18·9
1820·0	. . .	0.	57.	1 ·5	=	14.	15.	22 ·5,	. . . .	1.	39.	5·7
1855·0	. . .	1.	6.	31 ·2	=	16.	37.	48 ·0,	. . . .	1.	27.	48·8

The following constants will be required

1.	From	1820	to	1855	$z + \nu =$	+	13.	25″·85	$z' - \nu' =$	+	13.	26″·68	$\theta =$	+	702″·02
2.	—	1855	—	1820	——	−	13.	26 ·68	——	−	13.	25 ·85	——	−	702 ·02
3.	—	1820	—	1755	——	−	24.	57 ·20	——	−	24.	56 ·61	——	−	1304 ·04
4.	—	1855	—	1755	——	−	38.	23 ·80	——	−	38.	22 ·60	——	−	2006 ·00

If the observed position for 1820 be brought up to 1855 by computation with constants (1), and compared with the observed place of 1855·0, there will be found

$+0^s \cdot 1181 = +1'' \cdot 771$ in R.A. and $-0'' \cdot 0029$ in N.P.D. as the p.m. *for* 1855 :

and if the observed position for 1855 be thrown back to 1820 by computation with constants (2), and compared with the observed place of 1820·0, there will be found

$+0 \cdot 1034 = +1'' \cdot 551$ in R.A. and $-0'' \cdot 0043$ in N.P.D. as the p.m. *for* 1820.

To compute from the position of 1820 that for 1755 we must first deduct from the elements of 1820 sixty-five years' proper motion *for* 1820, namely compute with $\alpha = 14°.\ 13′.\ 41'' \cdot 7$, $\delta = 1°.\ 39′.\ 6'' \cdot 0$, and constants (3) : whence there will be found

R.A. $= 0^h.\ 43^m.\ 42^s \cdot 1$ N.P.D. $= 2°.\ 0′.\ 19'' \cdot 0$ for 1755·0

Similarly if we deduct 100 years' proper motion *for* 1855 from the observed position of 1855·0, and apply constants (4), we shall find

R.A. $= 0^h.\ 43^m.\ 42^s \cdot 0$ N.P.D. $= 2°.\ 0′.\ 19'' \cdot 0$ for 1755·0,

which will doubtless be considered to agree well with the former result, and the position observed by Bradley. (The calculations were performed with the formulæ of page xxix.)

The above case will have shown in actual numbers, what must ever be borne in mind, that although the whole annual proper motion of a star may be invariable from year to year, its two components in R.A. and N.P.D. cannot in general be so treated. Bessel has given formulæ (see Appendix) by which the two components for any year may be computed directly from those of another year ; but it appears to be simpler and it is equally accurate to treat the small arc of great circle, over which the star moves in one year, as though it were the line joining the two components of a double star, and to compute the proper motions in R.A. and N.P.D. of different years by correcting the angle of position for precession, while the distance remains the same.

Thus, if p be the angle of position, at time t, of the arc joining the star's place with its place affected by one year's proper motion, and p' the same angle at time t'

$$p' = p + \theta . \sin \tfrac{1}{2} (\alpha + \alpha') . \operatorname{cosec} \tfrac{1}{2} (\delta + \delta');$$

where θ is the third of the three constants given above.

The reader who wishes to pursue the subject further can verify the correspondency of the following values of the proper motions of Polaris, assuming 0″·0445 as the whole annual motion in a great circle.

	p	in R.A.	in N.P.D.
1755	81° 55′·8	+0ˢ·0840 = +1″·260	−0″·00625
1820	84 24·5	+0ˢ·1025 = +1″·538	−0″·00434
1855	86 19·2	+0ˢ·1159 = +1″·738	−0″·00286

§ 15. *Concluding Remarks.*

It is not improbable that some readers may think that I have extended this introduction to an unnecessary length, and I will confess to having intentionally been too detailed in my explanation rather than too brief. It is to be remembered that the account here given is addressed principally to a future astronomer who may in a far distant year repeat the examination of the star-positions of this region, when the particulars here supplied may be his only source of information on points which may then have an importance not now to be foreseen; and I am sufficiently conscious of the additional value which some of our old catalogues would possess, if they were similarly accompanied with copious explanations of the quantities, processes, and precautions followed in their formation. I have also hoped that at the same time I might thus remedy the want of prestige and authority commonly attached to the results of a private observatory.

The present is the proper occasion for adding, that the reductions were usually applied to the data of observation in batches of two or three months at a time, stage by stage, each step being carefully verified by check-computation before the next was proceeded with; and that no precaution which occurred to me has been neglected, either in calculation or in superintending the press, to insure final accuracy in the results.

It was my hope at the outset, that, when this region was finished, I might continue my survey southwards year by year, but the growing importance of another subject which engages my attention, the physical phenomena of the Sun's surface, together with certain prudential considerations which I could not anticipate, render it probable that at least some intermission may occur before my meridian instrument and I set out a second expedition of the kind. Should another continue the task on the plan I have pursued, he will feel the advantage of observing and reducing in narrow zones in a much greater degree than the exceptional circumstances of the present zone allowed. There appears to be nothing at the present time to prevent a sufficient combination and application of existing observing forces for an equally minute survey to be executed of the whole visible heavens, but the want of general recognition of the costliness of the results of astronomical observation, and of the consequent wastefulness of unnecessary repetition at one observatory of work as well done at another. If this Catalogue should hereafter come to form a portion of such a general survey, I shall have the greater satisfaction in having made some sacrifice in carrying it out.

R. C. Carrington.

REDHILL TRANSIT-CIRCLE.

Table of applied Meridian Errors and Polar Point Readings.

Day.	1854.	Stars.	m.	Polar Point.	Day.	1854.	Stars.	m.	Polar Point.
			″	° ′ ″				″	° ′ ″
20	Jan 21	5	+4·5	359. 56. 25·6	212	Aug 1	4	−3·0	359. 56. 26·5
22	23	3	+4·0	25·6	220	9	2	−2·2	27·5
23	24	7	+4·8	25·8	221	10	1	−2·2	27·0
25	26	5	+4·6	25·5	223	12	7	−2·9	26·8
27	28	8	+4·9	25·8	225	14	3	−2·9	27·5
29	30	2	+4·7	25·2	227	16	4	−2·9	27·5
32	Feb 2	5	+4·4	25·2	228	17	3	−3·0	27·2
39	9	5	+4·0	25·0	229	18	3	−3·0	27·5
43	13	7	+5·5	27·0	233	22	7	−3·0	27·3
48	18	4	+4·9	25·8	235	24	4	−3·0	27·0
53	23	8	+5·0	25·3	236	25	5	−2·7	27·0
55	25	8	+5·0	25·5	239	28	6	−2·9	27·0
57	27	3	+4·5	26·3	240	29	5	−2·4	27·5
58	28	4	+5·7	26·5	241	30	7	−1·8	27·0
59	Mar 1	3	+6·2	26·5	246	Sep 4	9	−2·2	27·5
60	2	3	+5·5	26·7	247	5	3	−1·5	27·5
61	3	5	+5·8	26·2	248	6	7	−1·0	28·1
64	6	4	+5·6	26·4	250	8	3	−1·0	27·7
71	13	3	+4·2	25·5	253	11	8	−2·0	28·5
74	16	4	+4·0	25·5	262	20	4	−2·0	28·7
75	17	7	+4·5	27·0	263	21	4	−2·0	29·0
78	20	2	+4·0	26·7	267	25	8	−2·0	28·7
79	21	4	+3·8	26·5	312	Nov 9	3	+1·0	359. 56. 49·1
85	27	2	+4·2	26·7	326	23	2	+2·0	48·7
86	28	3	+4·0	26·5	327	24	2	+2·0	49·0
87	29	4	+4·3	26·2	332	29	2	+2·0	48·0
88	30	6	+3·5	26·0	334	Dec 1	5	+2·7	47·7
89	31	3	+4·0	26·2	335	2	1	+2·4	47·7
90	Apr 1	6	+3·8	25·8	337	4	1	+2·1	48·0
95	6	7	+3·2	26·0	338	5	6	+2·4	47·5
123	May 4	3	+2·5	28·0	339	6	4	+2·1	47·7
124	5	4	+2·2	28·2	340	7	3	+2·1	48·0
129	10	2	+1·8	28·5	342	9	4	+1·5	48·0
134	15	5	+1·8	26·3	349	16	4	+2·1	47·7
135	16	4	+1·8	26·6	350	17	2	+1·8	48·1
136	17	5	+1·8	27·0	351	18	3	+1·8	48·1
137	18	6	+1·5	27·5	359	26	5	+1·5	R.C.C. 48·0
138	19	5	+1·5	28·7	360	—— 27	7	+1·8	48·3
139	20	1	+1·2	29·0	361	1855 28	7	+2·0	48·0
142	23	1	+0·5	28·5	374	Jan 10	3	+2·8	48·5
144	25	1	+0·5	28·5	375	11	0	+2·8	48·5
146	27	1	+0·5	28·5	378	14	3	+2·8	R.C.C. 49·0
150	31	1	+0·5	28·5	379	15	3	+3·0	48·3
160	Jun 10	1	+0·5	27·0	381	17	2	+3·0	48·5
162	12	1	+0·5	27·0	383	19	4	+3·0	49·0
163	13	1	+0·5	27·0	391	27	2	+3·6	49·5
167	17	3	+0·4	27·3					
168	18	5	+0·4	26·8	Two microscopes only from this time.				
170	20	5	+0·2	27·2	374	Jan 10	3	+2·8	359. 56. 49·0
178	28	1	−1·0	26·0	378	14	3	+2·8	R.C.C. 49·7
199	Jul 19	3	−1·0	26·7	391	27	2	+3·6	50·0
200	20	2	−1·5	26·4	393	29	3	+4·0	50·0
201	21	7	−1·3	26·2	405	Feb 10	6	+3·6	48·2
202	22	5	−1·3	26·0	406	11	2	+3·6	49·5
203	23	6	−0·8	26·0	409	14	3	+3·5	49·7
204	24	3	−1·5	25·8	410	15	5	+4·7	49·5
205	25	5	−1·5	25·8	411	16	3	+3·8	49·3
208	28	3	−1·2	26·5	413	18	6	+4·0	R.C.C. 48·2

Table of applied Meridian Errors and Polar Point Readings.

Day.	1855.		Stars.	m.	Polar Point.		Day.	1855.		Stars.	m.	Polar Point.	
				″		″					″	° ′	″
415	Feb	20	3	+3·7	R.C.C.	48·2	592	Aug	16	3	−4·0	359· 56.	54·2
416		21	2	+3·7		49·0	597		21	5	−5·9		54·1
418		23	3	+4·2		49·0	602		26	5	−5·5	R.C.C.	54·3
424	Mar	1	3	+4·2		48·5	604		28	5	−5·2		54·7
426		3	5	+4·5	359· 56.	54·5	605		29	4	−4·6		54·6
428		5	3	+5·0		55·0	606		30	4	−4·7		55·0
429		6	5	+5·0		55·5	607		31	4	−4·0	R.C.C.	54·5
430		7	3	+3·5		54·8	615	Sep	8	4	−5·3		55·2
431		8	4	+4·1		55·0	616		9	4	−4·3	359·59·	57·8
439		16	4	+3·0		54·6	619		12	4	−3·7		58·8
450		27	4	+3·6		55·3	629		22	5	−3·7	R.C.C.	57·9
453		30	1	+3·5		55·0	631		24	4	−3·6		57·5
454		31	4	+3·5		55·1	632		25	4	−4·2		58·2
459	Apr	5	2	+4·0		54·8	633		26	4	−4·2		58·4
464		10	4	+2·0		54·5	639	Oct	2	4	−4·2		61·7
468		14	4	+1·2		54·0	655		18	5	−3·3		58·6
469		15	3	+2·0	R.C.C.	53·7	656		19	4	−2·1		59·0
470		16	3	+1·1		54·1	664		27	5	−2·1		58·8
471		17	5	+1·1		53·5	669	Nov	1	4	−1·5		58·0
472		18	6	+1·3		53·5	676		8	5	−0·3		58·0
473		19	5	+1·2		54·0	682		14	6	+0·6		58·8
474		20	8	+0·8		54·0	683		15	4	+1·8		58·6
475		21	6	+0·6		53·6	690		22	3	0·0		58·6
477		23	6	+0·5		54·5	692		24	3	0·0		58·0
485	May	1	4	0·0		55·0	693		25	5	+0·6	R.C.C.	56·8
486		2	4	+0·8		54·8	696		28	3	+1·2		57·2
488		4	4	−0·7		53·5	698		30	5	+0·4		57·2
489		5	3	−0·8		55·3	703	Dec	5	5	+1·0		57·1
492		8	4	+0·2		55·8	704		6	5	+0·7		56·8
507		23	3	−1·2		54·8	705		7	3	+1·0		56·8
509		25	4	−0·2		54·8	710		12	3	+1·5		56·8
516	Jun	1	2	−3·5		54·6	711		13	4	+1·5		57·4
517		2	3	−2·4		55·2	713		15	2	+2·0		57·3
520		5	2	−2·0		54·5	716		18	5	+1·2		57·0
524		9	1	−3·2		54·5	717		19	5	+1·5		57·6
525		10	3	−3·0	R.C.C.	54·7	718		20	4	+1·5		57·5
526		11	3	−3·2		53·0	719		21	4	+2·8		57·6
528		13	2	−3·0		53·3	720		22	3	+2·1		59·2
534		19	4	−3·2		54·0	725	——	27	4	+2·5	R.C.C.	57·2
535		20	4	−3·2		54·5	728	1856	30	4	+3·0		57·4
536		21	4	−3·2		53·8	739	Jan	10	4	+1·8		56·8
538		23	2	−3·6		53·8	741		12	4	+2·4		57·6
541		26	4	−3·6		53·4	742		13	4	+2·4	R.C.C.	56·8
542		27	3	−2·4		53·7	743		14	3	+2·4		57·5
543		28	4	−3·2		53·3	744		15	4	+2·4		57·5
545		30	3	−4·5		52·8	754		25	5	+3·0		57·5
548	Jul	3	2	−4·5		53·2	755		26	3	+2·7		57·5
549		4	3	−4·5		53·5	758		29	4	+3·0		58·8
550		5	4	−4·5		53·7	759		30	4	+2·1		58·0
551		6	4	−4·5		54·0	769	Feb	9	3	+2·4		57·0
552		7	4	−4·5		53·0	771		11	1	+2·4		57·0
557		12	4	−5·5		54·2	776		16	5	+2·1		57·7
562		17	4	−6·1		54·6	789		29	4	+3·0		56·7
563		18	2	−6·1		54·6	796	Mar	7	4	+3·0		57·3
565		20	5	−5·7		54·2	797		8	2	+3·0		57·2
566		21	4	−5·1		54·5	803		14	4	+2·7		56·8
574		29	3	−4·5	R.C.C.	54·5	813		24	4	+2·1		56·5
576		31	4	−4·5		55·0	815		26	4	+2·1		56·2
580	Aug	4	4	−5·2		54·5	816		27	4	+2·7		56·5
585		9	5	−5·1		55·5	817		28	3	+3·0		56·5
586		10	3	−5·1		55·8	818		29	4	+3·3		56·7
588		12	5	−4·5	R.C.C.	53·3	819		30	4	+3·3	R.C.C.	56·0
589		13	4	−4·8		54·3	820		31	5	+3·3		56·7
591		15	4	−4·8		54·4	821	Apr	1	4	+3·3		56·7

Table of Applied Meridian Errors and Polar Points Readings.

Day.	1856.		Stars.	m.	Polar Point.		Day.	1856.		Stars.	m.	Polar Point.	
				″	° ′ ″						″	° ′	″
836	Apr	16	4	+0·3	359· 59· 57·0		912	Jul	1	4	−3·0	359· 59·	56·8
839		19	4	+1·5		57·3	914		3	4	−2·7		54·7
840		20	4	+0·9	R.C.C.	56·5	916		5	3	−4·2		54·9
841		21	4	+1·2		57·6	919		8	4	−4·5		55·3
842		22	4	+2·1		57·7	927		16	4	−5·1		55·2
854	May	4	4	0·0	R.C.C.	58·0	936		25	4	−5·1		54·4
866		16	2	−0·3		57·5	940		29	4	−3·9		54·6
867		17	3	−0·6		57·8	941		30	4	−3·9		55·0
869		19	4	0·0		57·3	942		31	4	−3·9		54·6
870		20	4	+0·6		57·3	943	Aug	1	4	−4·2		54·3
872		22	4	0·0		57·3	944		2	4	−4·8		54·2
878		28	4	−0·3		57·7	945		3	4	−5·4	R.C.C.	54·0
882	Jun	1	3	−0·9	R.C.C.	57·3	946		4	4	−5·1		54·6
883		2	4	−0·9		58·2	947		5	4	−5·1		54·6
884		3	4	−0·6		57·0	957		15	3	−6·3		55·3
886		5	4	−1·2		56·2	964		22	4	−5·4		56·5
887		6	4	−0·9		57·2	975	Sep	2	4	−4·5		56·5
891		10	4	−2·1		56·6	976		3	4	−4·2		56·8
896		15	4	−3·6	R.C.C. {	57·0	977		4	4	−4·8		56·0
903		22	3	−3·6		57·2	978		5	4	−4·5		56·0
907		26	4	−2·4		57·2	989		16	4	−5·1		56·0
908		27	4	−2·4		56·2	992		19	5	−4·8		56·3
909		28	4	−3·6		56·0	993		20	5	−4·5		56·5

The numbers in column 'Day' are reckoned throughout from January 1, 1854. The circle was read by Mr. Carrington on the dates to which his initials are appended. The microscopes were re-adjusted previously to the readings on days 312, 426, 616, 639, 655, and 914.

Table of Instrumental Errors, determined by the 20 special polar stars.

Day.	Star.	w.	t.	f.	d.	m.	P. p.	Day.	Star.	w.	t.	f.	d.	m.	P. p.
			s		s	″	″				s		s	″	″
20	5	4	56·11	+0·780	+ 3·04	+3·9	26·2	32	2	5	19·14	+2·607	+12·06	+4·6	25·4
	6	4	55·62	+1·178	+ 4·78	+4·1	25·1		16*	5	11·77	−1·120	− 4·92	+4·4	25·3
	16*	5	12·13	−1·120	− 5·28	+4·7	24·8		7	5	1·40	+1·391	+ 5·20	+3·7	25·3
	7	5	59·97	+1·391	+ 6·63	+4·8	25·5		8	1	17·41	+3·962	+22·19	+5·6	23·8
	8	1	22·30	+3·955	+17·30	+4·4	26·3		17*	1	44·22	−3·382	−14·32	+4·2	25·0
22	14*	1	5·39	−1·719	− 5·69	+3·3	26·7	39	16*	2	10·99	−1·120	− 4·14	+3·7	24·1
	4	2	22·55	+0·788	+ 2·55	+3·2	24·4		7	3	1·88	+1·391	+ 4·72	+3·4	24·8
	15*	2	38·71	−0·889	− 3·76	+4·2	25·8		8	1	21·62	+3·962	+17·98	+4·5	25·4
									17*	1	43·83	−3·380	−13·93	+4·1	24·3
23	6	1	55·24	+1·178	+ 5·16	+4·4	26·6		9	2	38·11	+1·904	+ 7·09	+3·7	26·0
	16*	3	11·93	−1·120	− 5·08	+4·5	25·0								
	7	5	59·49	+1·391	+ 7·11	+5·1	25·7	43	2	3	20·81	+2·607	+10·39	+4·0*d*	27·5*d*
	8	1	19·20	+3·956	+20·40	+5·2	26·2		6	1	53·70	+1·180	+ 6·70	+5·7	25·7
	17*	1	49·14	−3·384	−19·24	+5·7	25·5		16*	3	12·31	−1·120	− 5·46	+4·9	27·3
	18*	1	45·73	−1·068	− 4·98	+4·7	26·6		7	2	59·47	+1·391	+ 7·13	+5·1	27·5
	9	1	34·96	+1·903	+10·24	+5·4	25·8		17*	1	52·51	−3·379	−22·61	+6·7	27·4
									18*	1	48·11	−1·067	− 7·36	+6·9	26·0
25	2	4	19·73	+2·608	+11·47	+4·4	25·6		9	1	31·10	+1·904	+14·10	+7·4	28·0
	3	2	23·70	+1·865	+10·80	+5·8	25·4								
	4	2	21·42	+0·788	+ 3·68	+4·7	24·4	43	16	5	2·96	+1·120	+ 3·89	+3·5*d*	27·0*d*
	16*	3	11·47	−1·120	− 4·62	+4·1	26·5		7*	3	11·58	−1·391	− 4·98	+3·6*d*	27·8*d*
	7	3	0·14	+1·391	+ 6·46	+4·7	24·3								
								48	16*	2	12·02	−1·119	− 5·17	+4·6	25·8
25	16	4	1·84	+1·120	+ 5·01	+4·5*d*	26·5*d*		7	4	0·25	+1·392	+ 6·35	+4·6	26·0
									8	1	20·67	+3·965	+18·93	+4·8	26·1
27	2	4	18·87	+2·608	+12·33	+4·7	26·2		17*	1	47·10	−3·378	−17·20	+5·1	25·4
	4	3	21·35	+0·788	+ 3·75	+4·8	25·9								
	15*	2	39·28	−0·888	− 4·33	+4·9	26·1	53	2	3	21·51	+2·606	+ 9·69	+3·7*d*	26·3*d*
	5	2	55·49	+0·779	+ 3·66	+4·7	24·5		16*	3	11·85	−1·119	− 5·00	+4·5	25·0
	16*	3	12·64	−1·120	− 5·79	+5·2	25·8		7	3	0·20	+1·392	+ 6·40	+4·6	25·3
	7	3	59·57	+1·391	+ 7·03	+5·1	26·9		8	2	21·14	+3·968	+18·46	+4·7	24·7
	8	1	21·41	+3·958	+18·19	+4·6	25·7		17*	2	48·49	−3·376	−18·59	+5·5	27·5
	17*	2	47·66	−3·382	−17·76	+5·2	25·9		9	1	35·18	+1·906	+10·02	+5·3	24·7
									19*	1	53·75	−1·433	− 7·55	+5·3	25·7
29	2	2	19·73	+2·608	+11·47	+4·4	25·1		10	1	44·42	+2·435	+13·08	+5·4	25·5
	4	1	20·95	+0·788	+ 4·15	+5·3	24·0								

Table of Instrumental Errors (*continued*).

Day.	Star.	*w.*	*t.*	*f.*	*d.*	*m.*	*P.p.*
			s		s	″	″
55	16*	1	12·33	−1·119	− 5·48	+4·9	26·1
	7	5	0·13	+1·392	+ 6·47	+4·7	25·1
	8	1	19·02	+3·966	+20·58	+5·2	26·2
	17*	3	46·41	−3·375	−16·51	+4·9	25·5
	18*	1	46·40	−1·067	− 5·65	+5·3	25·6
	9	1	34·69	+1·906	+10·51	+5·5	24·0
	19*	1	53·64	−1·433	− 7·44	+5·2	24·4
	10	3	45·87	+2·433	+11·63	+4·8	26·1
57	18*	3	45·14	−1·067	− 4·39	+4·1	26·4
	9	3	37·26	+1·906	+ 7·94	+4·2	26·7
	19*	2	52·09	−1·433	− 5·89	+4·1	25·7
58	16*	3	12·28	−1·119	− 5·43	+4·9	27·7
	7	2	57·52	+1·392	+ 9·08	+6·5	26·2
	8	2	12·23	+3·968	+27·37	+6·9	26·4
	17*	3	48·34	−3·375	−18·44	+5·5	26·4
59	16*	3	13·87	−1·119	− 7·02	+6·3	24·7
	8	1	11·01	+3·968	+28·59	+7·2	26·8
	17*	2	49·97	−3·375	−20·07	+6·0	26·8
60	2	5	19·01	+2·605	+12·19	+4·7*d*	28·5*d*
	16*	5	13·05	−1·119	− 6·20	+5·5	26·5
	7	2	0·36	+1·392	+ 6·24	+4·5	27·0
61	2	4	19·07	+2·604	+12·13	+4·7*d*	28·3*d*
	6	5	54·05	+1·180	+ 6·35	+5·4	25·5
	16*	5	13·20	−1·119	− 6·35	+5·7	25·9
	7	2	58·07	+1·392	+ 8·53	+6·1	26·0
	19*	5	55·20	−1·433	− 9·00	+6·3	25·6
64	16*	4	13·63	−1·119	− 6·78	+6·1	27·0
	7	3	58·79	+1·392	+ 7·81	+5·6	26·2
	8	2	18·05	+3·968	+21·55	+5·5	26·5
	18*	1	46·23	−1·066	− 5·48	+5·1	26·0
71	16*	3	10·69	−1·119	− 3·84	+3·4	25·2
	7	3	1·67	+1·392	+ 4·93	+3·6	26·3
	17*	2	45·36	−3·373	−15·46	+4·6	25·2
74	16*	4	10·27	−1·119	− 3·42	+3·1	25·6
	7	4	1·29	+1·392	+ 5·31	+3·8	25·6
	20*	1	54·29	−1·090	− 4·79	+4·4	25·3
	2*	3	40·68	−2·602	− 9·48	+3·6	25·2
75	2	4	23·52	+2·603	+ 7·68	+3·0*d*	27·6*d*
	18*	3	46·63	−1·066	− 5·88	+5·5	28·1
	19*	5	54·71	−1·432	− 8·51	+6·0	26·9
	10	2	45·16	+2·436	+12·34	+5·1	27·1
	11	2	15·76	+1·059	+ 6·04	+5·7	27·5
	1*	3	38·83	−2·168	− 8·13	+3·8	27·1
	2*	4	38·98	−2·603	− 7·78	+3·0	27·3
78	16*	2	10·58	−1·119	− 3·73	+3·3	26·8
	7	3	0·94	+1·392	+ 5·66	+4·1	26·6
79	16*	5	10·58	−1·119	− 3·73	+3·3	26·8
	7	5	1·25	+1·392	+ 5·35	+3·8	26·5
	20*	1	54·15	−1·090	− 4·65	+4·3	26·7
	2*	5	41·37	−2·602	−10·17	+3·9	26·0
85	17*	2	42·56	−3·370	−12·66	+3·8	26·2
	2*	4	43·21	−2·602	−12·01	+4·6	28·0
86	20*	5	53·68	−1·090	− 4·18	+3·8	26·5
	11	3	17·55	+1·059	+ 4·25	+4·0	26·6
	2*	2	41·19	−2·601	− 9·99	+3·8	26·5
87	16*	4	10·35	−1·119	− 3·50	+3·1*d*	26·8*d*
	7	5	1·77	+1·392	+ 4·83	+3·5*d*	26·5*d*
	12	2	10·27	+2·563	+11·83	+4·6	26·2
	2*	3	42·32	−2·601	−11·12	+4·3	26·1
88	10	3	50·36	+2·438	+ 7·14	+2·9	25·7
	20*	3	53·21	−1·090	− 3·71	+3·4	25·3
	11	3	17·87	+1·059	+ 3·93	+3·7	25·8
	12	3	13·19	+2·563	+ 8·91	+3·5	26·4
	1*	3	38·42	−2·166	− 7·72	+3·6	26·3
	2*	5	40·23	−2·600	− 9·03	+3·5	25·3
89	19*	1	52·35	−1·432	− 6·15	+4·3	26·5
	10	1	47·57	+2·438	+ 9·93	+4·1	25·7
	20*	1	54·82	−1·090	− 5·32	+4·9	27·2
90	19*	3	51·16	−1·432	− 4·96	+3·5	26·2
	20*	3	53·84	−1·090	− 4·34	+4·0	25·1
	11	5	17·20	+1·059	+ 4·60	+4·4	26·7
	12	1	11·24	+2·564	+10·86	+4·2	25·7
	1*	3	38·45	−2·166	− 7·75	+3·6	24·9
	2*	3	39·72	−2·600	− 8·52	+3·3	25·8
95	16*	2	9·02	−1·119	− 2·17	+1·9*d*	27·6*d*
	7	5	3·38	+1·392	+ 3·22	+2·3*d*	26·9*d*
	17*	2	39·74	−3·370	− 9·84	+2·9	26·9
	19*	2	52·11	−1·431	− 5·91	+4·1	24·9
	12	1	10·72	+2·565	+11·38	+4·4	25·9
	1*	1	36·69	−2·165	− 5·99	+2·8	25·8
	2*	2	39·04	−2·599	− 7·84	+3·0	24·9
123	10	2	52·16	+2·441	+ 5·34	+2·2	27·9
	11	1	18·75	+1·060	+ 3·05	+2·9	27·1
	2*	2	38·00	−2·596	− 6·80	+2·6	28·8
124	20*	4	51·90	−1·090	− 2·40	+2·2	27·9
	11	1	18·46	+1·060	+ 3·34	+3·2	27·2
	2*	3	36·13	−2·596	− 4·93	+1·9	28·6
	14	4	56·09	+1·721	+ 3·61	+2·1	29·6
129	11	1	19·54	+1·060	+ 2·26	+2·1	28·2
	2*	2	34·65	−2·595	− 3·45	+1·3	29·0
134	12	2	15·70	+2·566	+ 6·40	+2·5	26·6
	1*	1	34·85	−2·162	− 4·15	+1·9	26·1
	2*	2	36·36	−2·595	− 5·16	+2·0	27·5
	4*	3	26·13	−0·788	− 1·03	+1·3	25·1
	15	3	33·38	+0·889	+ 1·57	+1·8	26·1
135	12	2	17·80	+2·568	+ 4·30	+1·7	27·0
	1*	1	33·50	−2·162	− 2·80	+1·3	26·7
	2*	2	35·04	−2·595	− 3·84	+1·5	26·6
	14	2	55·44	+1·722	+ 4·26	+2·5	26·2
135	2	5	29·41	+2·595	+ 1·79	+0·7*d*	28·2*d*
136	12	2	15·42	+2·568	+ 6·68	+2·6	26·8
	1*	2	32·79	−2·163	− 2·09	+1·0	27·9
	2*	2	34·12	−2·595	− 2·92	+1·1	26·8
	13	1	6·41	+2·440	+ 4·09	+1·7	25·9
	15	5	33·14	+0·892	+ 1·81	+2·0	27·2
137	1*	2	32·95	−2·162	− 2·25	+1·0	27·8
	2*	2	34·01	−2·594	− 2·81	+1·1	27·9
	13	2	5·40	+2·438	+ 5·10	+2·1	27·9
	3*	2	37·29	−1·859	− 2·79	+1·5	28·2
	4*	3	26·37	−0·788	− 1·27	+1·6	26·2
	15	5	33·65	+0·889	+ 1·30	+1·5	27·2
137	2	4	28·34	+2·594	+ 2·86	+1·1*d*	29·7*d*
138	11	5	20·58	+1·060	+ 1·22	+1·2	29·8
	2*	3	33·24	−2·594	− 2·04	+0·8	29·0
	14	2	57·42	+1·722	+ 2·28	+1·3	28·5
	4*	2	26·54	−0·788	− 1·44	+1·8	27·5
	15	2	33·35	+0·889	+ 1·60	+1·8	29·8
138	2	5	28·77	+2·594	+ 2·43	+0·9*d*	30·3*d*
139	2*	2	33·40	−2·594	− 2·20	+0·9	29·6
142	2*	3	31·55	−2·594	− 0·35	+0·1	28·1
144	2*	3	30·81	−2·594	+ 0·39	−0·2	28·0
146	2*	4	31·33	−2·594	− 0·13	+0·1	28·1
150	2*	4	32·12	−2·594	− 0·92	+0·4	28·9
154	2*	5	31·52	−2·593	− 0·32	+0·1	28·4
160	2*	4	31·79	−2·593	− 0·59	+0·2*d*	27·6*d*
162	2*	5	29·94	−2·593	+ 1·26	−0·5*d*	27·4*d*
163	2*	3	29·66	−2·593	+ 1·54	−0·6*d*	27·5*d*
167	2*	4	29·46	−2·593	+ 1·74	−0·7*d*	27·7*d*
	16	2	5·80	+1·121	+ 1·05	+0·9	27·4
	7*	3	6·11	−1·391	+ 0·49	−0·4	27·7

Table of Instrumental Errors (*continued*).

Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	"	"
168	2*	5	29·00	−2·593	+ 2·20	−0·9	27·9
	14	2	59·37	+1·724	+ 0·33	+0·2	28·4
	4*	2	25·69	−0·788	− 0·59	+0·7	26·9
	15	3	35·03	+0·890	− 0·08	−0·1	25·7
	5*	3	59·96	−0·780	− 0·81	+1·0	26·5
169	2*	5	29·03	−2·593	+ 2·17	−0·8*d*	27·5*d*
170	4*	4	24·78	−0·788	+ 0·32	−0·4	27·1
	15	5	35·60	+0·890	− 0·65	−0·7	28·1
	5*	2	59·23	−0·780	− 0·08	+0·1	27·1
	16	3	5·97	+1·122	+ 0·88	+0·8	27·1
	7*	2	6·84	−1·389	− 0·24	+0·2	27·3
172	2*	5	28·54	−2·593	+ 2·66	−1·0*d*	28·5*d*
173	2*	5	28·53	−2·593	+ 2·67	−1·0*d*	28·2*d*
178	2*	5	24·82	−2·593	+ 6·38	−2·5*d*	27·0*d*
198	2*	5	24·31	−2·594	+ 6·89	−2·7*d*	27·5*d*
199	6*	2	59·34	−1·177	+ 1·06	−0·9	23·5
	16	4	8·22	+1·122	− 1·37	−1·2	27·2
	7*	5	5·85	−1·389	+ 0·75	−0·5	26·8
200	16	5	8·89	+1·122	− 2·04	−1·8	26·0
	7*	3	4·07	−1·389	+ 2·53	−1·8	26·7
200	16*	3	4·10	−1·122	+ 2·75	−2·5*d*	27·8*d*
201	2*	5	23·11	−2·594	+ 8·09	−3·1*d*	27·2*d*
	6*	1	58·82	−1·177	+ 1·58	−1·3	25·4
	16	2	7·58	+1·122	− 0·73	−0·7	25·9
	7*	2	3·86	−1·389	+ 2·74	−2·0	25·2
	8*	1	35·93	−3·944	+ 3·67	−0·9	26·2
	17	2	30·76	+3·386	− 0·86	−0·3	27·2
	18	2	42·42	+1·067	− 1·67	−1·6	26·3
201	16*	4	4·72	−1·122	+ 2·13	−1·9*d*	28·1*d*
202	2*	5	24·65	−2·594	+ 6·55	−2·5*d*	27·3*d*
	5*	2	57·91	−0·779	+ 1·24	−1·6	25·8
	6*	2	58·09	−1·173	+ 2·31	−2·0	25·9
	16	2	7·96	+1·122	− 1·11	−1·0	26·2
	17	3	35·54	+3·387	− 5·64	−1·7	26·4
203	2*	5	23·35	−2·595	+ 7·85	−3·0*d*	28·0*d*
	5*	3	58·06	−0·780	+ 1·09	−1·4	25·6
	6*	2	0·00	−1·177	+ 0·40	−0·3	25·2
	7*	3	6·32	−1·389	+ 0·28	−0·2	26·4
	8*	2	36·99	−3·943	+ 2·61	−0·7	25·4
	17	3	31·79	+3·387	− 1·89	−0·6	26·1
204	16	2	9·41	+1·122	− 2·56	−2·3	26·2
	7*	3	4·60	−1·389	+ 2·00	−1·4	25·9
	17	2	34·30	+3·387	− 4·40	−1·3	25·3
205	2*	2	22·82	−2·595	+ 8·38	−3·2*d*	28·0*d*
	16	5	7·69	+1·122	− 0·84	−0·8	25·6
	7*	3	4·34	−1·389	+ 2·26	−1·6	25·8
	8*	1	32·92	−3·943	+ 6·68	−1·7	25·8
	17	2	34·83	+3·388	− 4·93	−1·5	25·1
208	2*	3	23·26	−2·595	+ 7·94	−3·1*d*	27·4*d*
	16	3	8·22	+1·122	− 1·37	−1·2	26·6
	7*	2	5·76	−1·389	+ 0·84	−0·6	26·7
212	16	3	10·52	+1·122	− 3·67	−3·3	26·1
	7*	2	2·04	−1·389	+ 4·56	−3·3	26·8
	17	1	40·90	+3·388	−11·00	−3·2	27·2
	18	1	43·06	+1·066	− 2·31	−2·2	26·7
212	16*	3	3·07	−1·123	+ 3·78	−3·4*d*	27·1*d*
	7	3	11·03	+1·389	− 4·43	−3·2*d*	26·6*d*
220	16	3	9·91	+1·123	− 3·06	−2·7	28·1
	7*	2	4·75	−1·389	+ 1·85	−1·3	28·2
221	2*	5	22·44	−2·596	+ 8·76	−3·4*d*	28·3*d*

Day.	Star.	w.	t.	f.	d.	m.	P.p.
					s	"	"
223	16	3	10·60	+1·123	− 3·75	−3·3	26·6
	7*	2	2·76	−1·388	+ 3·84	−2·8	27·4
	17	5	40·42	+3·392	−10·52	−3·1	26·6
	18	2	44·73	+1·068	− 3·98	−3·7	26·8
	9*	2	42·07	−1·904	+ 3·13	−1·7	26·0
	19	1	50·27	+1·433	− 4·07	−2·8	26·9
	10*	2	49·35	−2·434	+ 8·15	−3·3	27·1
225	6*	3	56·97	−1·177	+ 3·43	−2·9	27·9
	16	3	9·64	+1·123	− 2·79	−2·5	26·9
	7*	2	2·05	−1·388	+ 4·55	−3·3	27·7
227	16	3	9·81	+1·123	− 2·96	−2·7	27·5
	7*	3	3·40	−1·388	+ 3·20	−2·3	28·3
	18	3	43·59	+1·068	− 2·84	−2·7	27·7
	10*	2	49·49	−2·434	+ 8·01	−3·3	27·2
227	16*	4	3·23	−1·123	+ 3·62	−3·2*d*	27·9*d*
228	16	3	10·23	+1·123	− 3·38	−3·0	26·7
	7*	3	2·71	−1·388	+ 3·89	−2·8	27·2
	8*	3	26·54	−3·935	+13·06	−3·3	27·0
229	2*	2	20·39	−2·598	+10·81	−4·2*d*	29·6*d*
	8*	2	26·64	−3·935	+12·96	−3·3	27·2
	17	2	39·37	+3·395	− 9·47	−2·8	27·8
233	2*	4	21·41	−2·598	+ 9·79	−3·8*d*	28·5*d*
	16	2	10·15	+1·123	− 3·30	−3·0	27·7
	7*	3	2·54	−1·388	+ 4·06	−2·9	27·9
	8*	2	28·98	−3·933	+10·62	−2·7	26·9
	17	2	40·43	+3·395	−10·53	−3·1	28·0
	18	1	43·23	+1·068	− 2·48	−2·3	26·8
	9*	1	39·86	−1·903	+ 5·34	−2·8	26·4
235	16	3	10·08	+1·123	− 3·23	−2·9	27·7
	7*	3	2·59	−1·388	+ 4·01	−2·9	26·9
	8*	2	28·29	−3·934	+11·31	−2·9	26·8
	17	2	41·25	+3·395	−11·35	−3·3	27·1
236	16	5	10·04	+1·123	− 3·19	−2·9	27·0
	7*	5	2·97	−1·388	+ 3·63	−2·6	26·9
	8*	1	27·34	−3·934	+12·26	−3·1	26·7
	17	3	37·38	+3·395	− 7·48	−2·2	26·9
	20	1	51·56	+1·091	− 2·06	−1·9	26·8
239	16	5	9·37	+1·123	− 2·52	−2·3	26·7
	7*	3	2·38	−1·388	+ 4·22	−3·0	27·4
	8*	2	27·25	−3·934	+12·35	−3·1	26·9
	9*	1	39·00	−1·902	+ 6·20	−3·3	28·0
	19	2	49·49	+1·434	− 3·29	−2·3	27·1
	10*	3	49·64	−2·432	+ 7·86	−3·2	26·6
240	16	5	10·74	+1·123	− 3·89	−3·5	27·1
	7*	3	2·59	−1·388	+ 4·01	−2·9	27·8
	8*	2	28·52	−3·934	+11·08	−2·8	27·9
	17	5	37·16	+3·396	− 7·26	−2·1	27·0
	19	1	47·30	+1·434	− 1·10	−0·8	27·5
241	16	5	10·25	+1·123	− 3·40	−3·0	27·2
	7*	5	2·71	−1·388	+ 3·89	−2·8	26·9
	18	3	42·22	+1·068	− 1·47	−1·4	28·0
	9*	2	41·22	−1·902	+ 3·98	−2·1	27·2
	19	2	47·06	+1·435	− 0·86	−0·6	26·5
	10*	1	52·11	−2·432	+ 5·39	−2·2	27·0
	20	4	50·30	+1·091	− 0·80	−0·7	26·4
246	2*	5	21·33	−2·600	+ 9·87	−3·8*d*	29·7*d*
	16	5	10·47	+1·122	− 3·62	−3·2*d*	28·2*d*
	7*	5	2·87	−1·388	+ 3·93	−2·8*d*	28·8*d*
	8*	3	28·57	−3·933	+11·03	−2·8	28·4
	17	3	37·10	+3·399	− 7·20	−2·1	26·7
	18	3	43·52	+1·068	− 2·77	−2·6	26·3
	19	3	49·94	+1·435	− 3·74	−2·6	27·6
	20	1	50·73	+1·091	− 1·23	−1·1	26·5
	12*	1	17·85	−2·560	+ 4·25	−1·7	27·7
247	16	5	9·68	+1·123	− 2·83	−2·5*d*	28·2*d*
	7*	5	3·98	−1·388	+ 2·62	−1·9*d*	28·3*d*
	8*	1	32·23	−3·931	+ 7·37	−1·9	27·8

Table of Instrumental Errors (*continued*).

Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	″	″
248	2*	5	20·91	−2·600	+10·29	−4·0*d*	29·6*d*
	16	3	8·61	+1·123	+1·76	−1·6*d*	28·6*d*
	7*	3	3·80	−1·388	+2·80	−2·0*d*	28·4*d*
	20	3	50·98	+1·091	−1·48	−1·4	28·2
	12*	2	21·86	−2·560	+0·24	−0·1	28·9
	1	3	29·73	+2·166	+0·97	+0·4	28·1
	2	5	33·62	+2·600	−2·42	−0·9	28·0
249	2*	3	20·59	−2·600	+10·61	−4·1*d*	30·7*d*
250	2*	3	21·11	−2·600	+10·09	−3·9*d*	28·6*d*
	16	5	8·58	+1·123	−1·73	−1·5*d*	28·0*d*
	7*	5	4·95	−1·388	+1·65	−1·2*d*	29·1*d*
251	16	5	9·24	+1·123	−2·39	−2·1*d*	28·7*d*
	7*	5	4·20	−1·388	+2·40	−1·7*d*	28·8*d*
253	2*	5	20·72	−2·600	+10·48	−4·0*d*	30·0*d*
	16	5	8·98	+1·123	−2·13	−1·9*d*	29·7*d*
	7*	5	3·27	−1·388	+3·33	−2·4*d*	30·2*d*
	20	3	52·51	+1·091	−3·01	−2·8	28·4
	11*	3	19·47	−1·059	+2·33	−2·2	29·1
	1	2	33·92	+2·168	−3·22	−1·5	27·9
	2	5	35·96	+2·601	−4·76	−1·8	27·9
	13*	3	5·84	−2·434	+4·66	−1·9	28·9
254	2*	5	21·25	−2·601	+9·95	−3·8*d*	30·2*d*
	16	5	10·14	+1·123	−3·29	−2·9*d*	28·8*d*
	7*	5	3·01	−1·388	+3·59	−2·6*d*	29·1*d*
262	16	5	9·80	+1·123	−2·95	−2·6*d*	29·0*d*
	7*	5	2·54	−1·388	+4·06	−2·9*d*	29·5*d*
	10*	3	52·57	−2·429	+4·93	−2·0	28·9
	2	2	38·94	+2·603	−7·74	−3·0	28·8
263	16	5	9·52	+1·123	−2·67	−2·4*d*	30·2*d*
	7*	5	3·12	−1·388	+3·48	−2·5*d*	30·3*d*
	10*	3	52·55	−2·429	+4·95	−2·0	29·5
	2	3	36·95	+2·603	−5·75	−2·2	28·4
264	2*	5	20·69	−2·603	+10·51	−4·1*d*	29·7*d*
267	16	5	10·14	+1·123	−3·29	−2·9*d*	29·3*d*
	7*	5	2·65	−1·388	+3·95	−2·9*d*	29·7*d*
	10*	3	52·64	−2·427	+4·86	−2·0	29·1
	11*	3	19·49	−1·058	+2·31	−2·2	28·0
	12*	2	16·91	−2·557	+5·19	−2·0	28·5
	1	5	35·86	+2·169	−5·16	−2·4	28·7
	2	2	38·86	+2·603	−7·66	−3·0	28·8
	13*	2	7·70	−2·432	+2·80	−1·2	29·5
312	11*	4	22·77	−1·057	−0·97	+0·9	49·2
	1	2	28·33	+2·176	+2·37	+1·1	48·9
	2	3	28·33	+2·612	+2·87	+1·1	49·2
325	2*	5	40·37	−2·614	−9·17	+3·5*d*	51·1*d*
326	2	2	25·89	+2·614	+5·31	+2·0	47·9
	5	3	58·18	+0·779	+0·97	+1·2	49·1
327	1	1	25·34	+2·179	+5·36	+2·5	49·7
	2	5	26·53	+2·614	+4·67	+1·8	48·6
331	2*	3	33·57	−2·615	−2·37	+0·9*d*	49·9*d*
332	2	2	26·95	+2·615	+4·25	+1·6	47·9
	7	2	3·42	+1·389	+3·18	+2·3	47·8
332	2*	5	33·46	−2·615	−2·26	+0·9*d*	48·7*d*
333	2*	5	35·38	−2·615	−4·18	+1·6*d*	49·3*d*
334	2	3	24·15	+2·615	+7·05	+2·7	48·3
	3	2	28·83	+1·867	+5·67	+3·0	46·9
	14*	1	6·02	−1·719	−6·32	+3·7	47·8
	4	1	22·90	+0·789	+2·20	+2·8	48·4
	16*	2	9·04	−1·122	−2·19	+2·0	47·1
335	2	2	25·55	+2·616	+5·65	+2·2	47·4
337	2	2	27·19	+2·616	+4·01	+1·5	48·8

Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	″	″
338	3	2	31·66	+1·867	+2·84	+1·5	47·5
	14*	2	3·92	−1·718	−4·22	+2·5	47·5
	4	5	23·54	+0·789	+1·56	+2·0	46·9
	15*	5	37·05	−0·889	−2·10	+2·4	47·2
	16*	3	9·70	−1·122	−2·85	+2·6	47·7
	7	3	2·65	+1·389	+3·95	+2·8	48·1
339	20	3	47·59	+1·093	+1·91	+1·8	47·7
	1	1	26·16	+2·178	+4·54	+2·1	47·9
	2	2	25·62	+2·616	+5·58	+2·1	47·2
	13*	1	14·58	−2·422	−4·08	+1·7	48·1
340	12*	1	26·57	−2·546	−4·47	+1·7	47·9
	2	2	25·51	+2·616	+5·69	+2·2	47·6
	3	1	29·81	+1·867	+4·69	+2·5	48·4
342	15*	3	37·21	−0·889	−2·26	+2·5	48·9
	5	3	58·21	+0·780	+0·94	+1·2	47·5
	16*	3	8·41	−1·122	−1·56	+1·4	47·8
	7	3	4·61	+1·389	+1·99	+1·4	48·0
349	1	2	25·43	+2·179	+5·27	+2·4	48·2
	2	2	24·80	+2·617	+6·40	+2·5	47·1
	16*	3	9·15	−1·122	−2·30	+2·1	47·4
	7	3	3·92	+1·389	+2·68	+1·9	47·9
350	2	2	26·67	+2·617	+4·53	+1·7	48·1
	13*	1	14·96	−2·420	−4·46	+1·8	48·0
351	14*	1	3·26	−1·718	−3·56	+2·1	48·4
	6	5	58·54	+1·178	+1·86	+1·6	48·1
	16*	2	8·94	−1·122	−2·09	+1·9	48·0
359	11*	1	21·75	−1·057	+0·05	−0·0	48·1
	2	2	28·23	+2·618	+2·97	+1·1	47·3
	6	2	58·85	+1·178	+1·55	+1·3	47·7
	16*	5	8·70	−1·122	−1·85	+1·7	47·8
	7	3	3·95	+1·389	+2·65	+1·9	49·2
360	11*	2	23·51	−1·057	−1·71	+1·6	48·0
	12*	1	27·05	−2·545	−4·95	+1·9	48·1
	1	3	26·03	+2·179	+4·67	+2·1	48·2
	2	3	26·92	+2·618	+4·28	+1·6	48·3
	13*	1	13·80	−2·420	−3·30	+1·4	48·5
	16*	3	9·21	−1·121	−2·36	+2·1	48·1
	7	3	4·18	+1·390	+2·42	+1·7	48·7
361	11*	3	23·78	−1·057	−1·98	+1·9	47·4
	1	1	26·50	+2·181	+4·20	+1·9	47·8
	2	2	26·25	+2·618	+4·95	+1·9	47·6
	13*	1	15·55	−2·418	−5·05	+2·1	46·1
	15*	5	37·10	−0·888	−2·15	+2·4	48·6
	16*	3	9·15	−1·121	−2·30	+2·1	48·1
	7	3	3·73	+1·390	+2·87	+2·1	49·1
362	2	3	26·51	+2·618	+4·69	+1·8	48·9
374	2	3	25·88	+2·618	+5·32	+2·0	49·1
	16*	3	11·20	−1·121	−4·35	+3·9	48·2
	7	3	3·04	+1·390	+3·56	+2·6	48·6
378	3	3	29·52	+1·870	+4·98	+2·7	48·9
	16*	3	9·72	−1·121	−2·87	+2·6	48·9
	7	5	2·25	+1·390	+4·35	+3·1	49·5
379	2	4	23·66	+2·618	+7·54	+2·9	49·1
	13*	1	18·86	−2·418	−8·36	+3·4	47·5
	14*	1	5·10	−1·715	−5·40	+3·1	47·6
381	2	2	23·09	+2·618	+8·11	+3·1	48·4
	15*	1	37·31	−0·888	−2·36	+2·7	48·8
383	1	3	24·59	+2·180	+6·11	+2·8	49·2
	2	4	23·29	+2·618	+7·91	+3·0	49·5
	13*	2	21·02	−2·418	−10·52	+4·3	49·0
	16*	3	9·15	−1·121	−2·30	+2·1	48·3
	7	0	—	—	—	—	48·6
390	2	5	23·53	+2·618	+7·67	+2·9	49·7
390	16	4	3·40	+1·121	+3·45	+3·1	49·2
391	2	5	20·96	+2·618	+10·24	+3·9	49·7
	16*	3	10·57	−1·121	−3·72	+3·3	49·4

Table of Instrumental Errors (*continued*).

Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	"	"
374	2	3	25·88	+2·618	+ 5·32	+2·0	49·1
	16*	3	11·20	−1·121	− 4·35	+3·9	48·4
	7	3	3·04	+1·390	+ 3·56	+2·6	49·3
378	3	3	29·52	+1·870	+ 4·98	+2·7	49·8
	16*	3	9·72	−1·121	− 2·87	+2·6	49·2
	7	5	2·25	+1·390	+ 4·35	+3·1	50·0
391	2	5	20·96	+2·618	+10·24	+3·9	49·9
	16*	3	10·57	−1·121	− 3·72	+3·3	50·2
393	14*	2	6·47	−1·715	− 6·77	+4·0	50·1
	4	3	21·75	+0·790	+ 3·35	+4·2	50·3
	15*	3	38·78	−0·888	− 3·83	+4·3	49·0
405	2	5	21·35	+2·618	+ 9·85	+3·8	48·4
	4	2	22·23	+0·790	+ 2·87	+3·6	47·4
	15*	3	37·22	−0·888	− 2·27	+2·6	47·2
	5	3	56·81	+0·780	+ 2·34	+3·0	47·7
	9	3	35·89	+1·900	+ 9·31	+4·9	50·1
	19*	3	52·59	−1·436	− 6·39	+4·5	48·2
406	4	3	22·69	+0·790	+ 2·41	+3·1	49·5
	15*	3	38·34	−0·888	− 3·39	+3·8	49·3
407	2	5	21·60	+2·617	+ 9·60	+3·7	49·9
409	15*	3	38·50	−0·888	− 3·55	+4·0	49·7
	16*	2	9·67	−1·120	− 2·82	+2·5	50·4
	7	3	2·23	+1·392	+ 4·37	+3·1	49·6
410	2	5	21·50	+2·617	+ 9·70	+3·7*d*	49·7*d*
	4	3	21·99	+0·790	+ 3·11	+3·9	48·7
	5	3	55·44	+0·780	+ 3·71	+4·8	49·8
	16*	3	12·32	−1·120	− 5·47	+4·9	49·6
	7	2	57·95	+1·392	+ 8·65	+6·2	49·9
410	16	5	2·00	+1·120	+ 4·85	+4·3*d*	49·4*d*
	7*	5	11·74	−1·392	− 5·14	+3·7*d*	50·2*d*
411	5	3	56·80	+0·780	+ 2·35	+3·0	49·6
	16*	3	11·01	−1·120	− 4·16	+3·7	48·8
	7	2	1·22	+1·392	+ 5·38	+3·9	49·3
413	2	4	21·80	+2·617	+ 9·40	+3·6*d*	49·2*d*
	16*	3	11·78	−1·120	− 4·93	+4·4	47·5
	7	3	1·91	+1·392	+ 4·69	+3·4	47·7
	18*	3	44·35	−1·068	− 3·60	+3·4	49·5
	9	3	38·33	+1·901	+ 6·87	+3·6	48·5
	19*	2	55·81	−1·436	− 9·61	+6·7	48·1
415	2	5	20·71	+2·617	+10·49	+4·0*d*	49·1*d*
	6	3	56·58	+1·180	+ 3·82	+3·2	48·6
	16*	3	9·86	−1·120	− 3·01	+2·7	48·1
416	18*	3	43·77	−1·068	− 3·02	+2·8	48·6
	9	3	37·47	+1·901	+ 7·73	+4·1	49·6
418	6	3	56·34	+1·180	+ 4·06	+3·4	49·2
	16*	3	12·08	−1·120	− 5·23	+4·7	49·4
	8	2	21·34	+3·965	+18·26	+4·6	47·6
424	16*	3	11·53	−1·120	− 4·68	+4·2	48·0
	8	3	22·53	+3·965	+17·07	+4·3	48·3
	17*	1	43·74	−3·382	−13·84	+4·1	49·1
426	5	5	56·44	+0·780	+ 2·71	+3·5	53·8
	16*	2	11·67	−1·119	− 4·82	+4·3	54·6
	18*	3	46·17	−1·067	− 5·42	+5·1	54·8
	9	3	35·87	+1·901	+ 9·33	+4·9	54·0
	19	3	52·96	−1·436	− 6·76	+4·7	54·5
428	16*	3	12·94	−1·119	− 6·09	+5·4	55·4
	7	5	0·43	+1·392	+ 6·17	+4·4	55·1
	18*	3	46·06	−1·067	− 5·31	+5·0	54·3
429	16*	3	12·37	−1·119	− 5·52	+4·9	56·0
	7	3	0·04	+1·392	+ 6·56	+4·7	55·9
	9	3	33·94	+1·902	+11·26	+5·9	54·8
	19*	2	56·16	−1·435	− 9·96	+7·0	55·2
	11	3	16·09	+1·057	+ 5·71	+5·4	56·6
430	2	5	23·74	+2·613	+ 7·46	+2·9*d*	55·8*d*

Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	"	"
430	18*	3	44·87	−1·067	− 4·12	+3·9	52·6
	10	2	49·68	+2·427	+ 7·82	+3·2	53·9
	2*	3	37·99	−2·613	− 6·79	+2·6	55·5
431	2	2	25·69	+2·613	+ 5·51	+2·1*d*	56·1*d*
431	8	2	21·91	+3·968	+17·69	+4·5	54·2
	19*	3	53·20	−1·435	− 7·00	+4·9	55·1
	12	3	11·66	+2·550	+10·44	+4·1	54·7
	2*	5	40·52	−2·615	− 9·32	+3·6	55·4
439	2	4	26·71	+2·613	+ 4·49	+1·7*d*	56·1*d*
439	16*	3	9·80	−1·119	− 2·95	+2·6	55·1
	8	3	29·65	+3·968	+ 9·95	+2·5	54·2
	17*	3	40·11	−3·378	−10·21	+3·0	54·2
	2*	4	38·82	−2·613	− 7·62	+2·9	54·7
443	16*	5	9·63	−1·119	− 2·78	+2·5	55·0
	7	5	2·82	+1·392	+ 3·78	+2·7	56·0
450	20*	2	52·63	−1·092	− 3·13	+2·9	55·2
	11	3	17·67	+1·057	+ 4·13	+3·9	55·4
	2*	3	39·59	−2·612	− 8·39	+3·2	54·6
	13	2	59·35	+2·424	+11·15	+4·6	56·0
450	16*	5	9·42	−1·119	− 2·57	+2·3*d*	56·5*d*
	7	5	3·18	+1·392	+ 3·42	+2·5*d*	55·9*d*
453	17*	2	43·89	−3·377	−13·99	+4·1	54·9
454	16*	5	9·05	−1·119	− 2·20	+2·0*d*	55·6*d*
	7	5	3·75	+1·392	+ 2·85	+2·1*d*	56·2*d*
	2*	2	38·88	−2·611	− 7·68	+3·0	55·3
	13	1	59·71	+2·424	+10·79	+4·4	55·0
459	19*	5	53·03	−1·434	− 6·83	+4·8	54·5
	10	3	48·84	+2·431	+ 8·66	+3·6	55·0
464	19*	1	49·55	−1·434	− 3·35	+2·3	54·7
	11	3	20·36	+1·057	+ 1·44	+1·4	54·2
	12	1	16·68	+2·555	+ 5·42	+2·1	54·3
	1*	1	35·53	−2·173	− 4·83	+2·2	54·9
465	16*	3	7·77	−1·119	− 0·92	+0·8*d*	54·8*d*
	7	1	5·70	+1·392	+ 0·90	+0·6*d*	55·9*d*
466	16*	5	7·27	−1·119	− 0·42	+0·4*d*	54·8*d*
	7	2	6·06	+1·392	+ 0·54	+0·4*d*	55·7*d*
468	16*	5	7·18	−1·119	− 0·33	+0·3*d*	55·4*d*
	7	3	6·42	+1·392	+ 0·18	+0·1*d*	55·9*d*
	20*	3	50·54	−1·091	− 1·04	+1·0	53·2
	11	3	20·90	+1·057	+ 0·90	+0·9	54·1
469	20*	3	52·25	−1·091	− 2·75	+2·5	53·9
	11	3	19·88	+1·058	+ 1·92	+1·8	53·8
	3*	5	39·22	−1·866	− 4·72	+2·5	52·9
469	2	3	30·81	+2·608	+ 0·39	+0·2*d*	55·8*d*
470	12	2	19·67	+2·555	+ 2·43	+1·0	54·8
	2*	3	34·15	−2·608	− 2·95	+1·1	54·2
	13	3	8·29	+2·427	+ 2·21	+0·9	53·3
470	2	5	30·76	+2·608	+ 0·44	+0·2*d*	55·5*d*
471	16*	5	7·33	−1·119	− 0·48	+0·4*d*	55·5*d*
	7	5	6·04	+1·392	+ 0·56	+0·4*d*	54·1*d*
	19*	5	49·09	−1·434	− 2·89	+2·0	53·2
	11	5	21·35	+1·058	+ 0·45	+0·4	52·3
	2*	2	33·06	−2·608	− 1·86	+0·7	52·9
471	2	5	31·94	+2·608	− 0·74	−0·3*d*	54·6*d*
472	16*	5	7·33	−1·119	− 0·48	+0·4*d*	55·3*d*
	7	5	6·41	+1·392	+ 0·19	+0·1*d*	54·0*d*
	18*	5	43·07	−1·067	− 2·32	+2·2	53·6
	20*	3	50·69	−1·091	− 1·19	+1·1	52·9
	11	3	20·35	+1·058	+ 1·45	+1·4	53·3
	2*	2	34·77	−2·608	− 3·57	+1·4	52·7
472	2	5	32·61	+2·608	− 1·41	−0·5*d*	56·2*d*

Table of Instrumental Errors (*continued*).

Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	″	″
473	9	2	43·68	+1·905	+ 1·52	+0·8	53·3
	19*	2	48·15	−1·434	− 1·95	+1·4	53·7
	20*	3	50·25	−1·091	− 0·75	+0·7	54·3
	11	5	20·45	+1·059	+ 1·35	+1·3	53·8
	2*	2	36·64	−2·608	− 5·44	+2·1	55·2
473	2	3	32·11	+2·608	− 0·91	−0·4*d*	55·5*d*
474	16*	5	6·19	−1·119	+ 0·66	−0·6*d*	54·5*d*
	7	5	7·22	+1·392	− 0·62	−0·5*d*	55·0*d*
	9	5	43·83	+1·907	+ 1·37	+0·7	53·1
	19*	5	48·41	−1·434	− 2·21	+1·5	55·1
	10	3	58·87	+2·431	− 1·37	−0·6	54·4
	20*	5	50·38	−1·091	− 0·88	+0·8	54·4
	11	5	20·82	+1·058	+ 0·98	+0·9	54·3
	2*	2	33·81	−2·608	− 2·61	+1·0	53·6
474	2	4	32·83	+2·608	− 1·63	−0·6*d*	54·2*d*
475	16*	3	6·59	−1·119	+ 0·26	−0·2*d*	54·6*d*
	7	5	6·84	+1·392	− 0·24	−0·2*d*	54·7*d*
	10	4	57·66	+2·431	− 0·16	−0·1	53·1
	20*	5	50·31	−1·091	− 0·81	+0·7	54·0
	11	5	21·34	+1·058	+ 0·46	+0·4	53·5
	2*	2	33·70	−2·608	− 2·50	+1·0	53·6
475	2	3	32·34	+2·608	− 1·14	−0·4*d*	55·0*d*
476	2	4	32·35	+2·608	− 1·15	−0·4*d*	55·5*d*
477	10	2	56·30	+2·431	+ 1·20	+0·5	55·0
	20*	5	50·00	−1·091	− 0·50	+0·5	55·2
	11	5	21·25	+1·058	+ 0·55	+0·5	54·8
	12	2	21·58	+2·556	+ 0·52	+0·2	54·7
	1*	2	31·87	−2·172	− 1·17	+0·5	54·3
	2*	1	32·23	−2·608	− 1·03	+0·4	54·1
485	10	3	58·60	+2·432	− 1·10	−0·5	54·9
	20*	5	49·42	−1·091	+ 0·08	−0·1	55·2
	11	5	21·90	+1·058	− 0·10	−0·1	55·1
	1*	3	32·24	−2·171	− 1·54	+0·7	54·9
486	10	3	55·84	+2·432	+ 1·66	+0·7	55·0
	20*	5	50·63	−1·091	− 1·13	+1·0	54·5
	11	5	20·18	+1·058	+ 1·62	+1·5	55·1
	1*	2	32·47	−2·171	− 1·77	+0·8	54·1
488	2*	2	30·61	−2·607	+ 0·59	−0·2	53·9
	13	2	13·67	+2·429	− 3·17	−1·3	53·9
	3*	2	33·53	−1·864	+ 0·97	−0·5	52·8
	14	3	1·24	+1·719	− 1·54	−0·9	52·3
489	2	2	35·64	+2·607	− 4·44	−1·7*d*	55·6*d*
489	20*	5	48·68	−1·091	+ 0·82	−0·8	55·5
	11	5	22·81	+1·058	− 1·01	−1·0	55·7
	3*	1	33·76	−1·864	+ 0·74	−0·4	54·7
492	10	2	58·32	+2·432	− 0·82	−0·3	55·3
	20*	5	50·28	−1·091	− 0·78	+0·7	55·1
	11	5	22·24	+1·058	− 0·44	−0·4	56·4
	5*	4	59·87	−0·780	− 0·72	+0·9	56·4
506	2*	2	24·36	−2·605	+ 6·84	−2·6	54·4
507	1*	3	26·19	−2·169	+ 4·51	−2·1	55·8
	13	2	13·91	+2·431	− 3·41	−1·4	54·6
	3*	2	32·99	−1·864	+ 1·51	−0·8	53·7
509	12	3	24·20	+2·559	− 2·10	−0·8	55·4
	1*	3	28·69	−2·169	+ 2·01	−0·9	55·1
	5*	2	0·36	−0·780	− 1·21	+1·5	54·6
	16	3	6·76	+1·121	+ 0·09	+0·1	54·3
516	14	2	6·77	+1·720	− 7·07	−4·1	54·1
	4*	1	21·77	−0·788	+ 3·33	−4·2	54·6
517	14	3	2·72	+1·720	− 3·02	−1·8	56·8
	16	1	11·36	+1·121	− 4·51	−4·0	54·6
	7*	3	3·71	−1·391	+ 2·89	−2·1	56·2
520	2*	3	25·85	−2·604	+ 5·35	−2·1	54·8
	13	2	15·16	+2·431	− 4·66	−1·9	54·2
523	2*	3	22·97	−2·604	+ 8·23	−3·2	53·9
	13	1	18·94	+2·431	− 8·44	−3·5	54·8
524	2*	5	21·87	−2·604	+ 9·33	−3·6	54·4
525	2*	3	21·44	−2·604	+ 9·76	−3·7	54·5
	14	3	4·19	+1·720	− 4·49	−2·6	54·5
	5*	3	57·58	−0·780	+ 1·57	−2·0	55·1
526	2*	5	21·68	−2·604	+ 9·52	−3·7	53·5
	15	2	38·18	+0·889	− 3·23	−3·6	52·2
	5*	5	57·44	−0·780	+ 1·71	−2·2	52·4
528	6*	3	56·72	−1·178	+ 3·68	−3·1	53·2
	8*	1	28·76	−3·952	+10·84	−2·8	53·4
531	2*	5	21·62	−2·603	+ 9·58	−3·7*d*	55·8*d*
534	2*	5	21·26	−2·603	+ 9·94	−3·8*d*	55·3*d*
	14	3	5·51	+1·721	− 5·81	−3·4	54·0
	8*	1	26·93	−3·951	+12·67	−3·2	53·9
	17	5	40·44	+3·386	−10·54	−3·1	53·7
535	2*	3	20·87	−2·603	+10·33	−4·0*d*	55·1*d*
	14	5	5·61	+1·721	− 5·91	−3·4	54·9
	16	3	10·55	+1·121	− 3·70	−3·3	54·4
	7*	3	3·37	−1·390	+ 3·23	−2·3	54·7
536	6*	3	57·53	−1·178	+ 2·87	−2·4	54·1
	16	2	11·08	+1·121	− 4·23	−3·8	53·5
	8*	2	27·46	−3·950	+12·14	−3·1	53·7
	17	3	41·13	+3·386	−11·23	−3·3	53·8
538	4*	2	22·59	−0·788	+ 2·51	−3·2	53·5
	15	2	38·55	+0·889	− 3·60	−4·1	53·8
541	14	3	6·88	+1·722	− 7·18	−4·2	53·3
	4*	5	22·45	−0·788	+ 2·65	−3·4	52·8
	8*	2	28·22	−3·949	+11·38	−2·9	52·5
	17	3	42·40	+3·388	−12·50	−3·7	54·1
542	6*	3	57·77	−1·178	+ 2·63	−2·2	53·7
	16	2	9·58	+1·121	− 2·73	−2·4	53·4
	17	1	37·96	+3·388	− 8·06	−2·4	54·5
543	2*	5	20·58	−2·603	+10·62	−4·1*d*	53·6*d*
	14	3	5·56	+1·722	− 5·86	−3·4	54·0
	4*	3	22·64	−0·788	+ 2·46	−3·1	52·7
	17	2	40·69	+3·388	−10·79	−3·2	54·2
545	14	3	7·49	+1·722	− 7·79	−4·5	53·0
	4*	2	21·54	−0·788	+ 3·56	−4·5	52·8
	7*	1	0·74	−1·390	+ 5·86	−4·2	52·0
548	8*	2	20·91	−3·947	+18·69	−4·7	53·0
	17	5	45·26	+3·389	−15·36	−4·5	53·2
549	14	5	7·90	+1·722	− 8·20	−4·8	53·5
	4*	5	22·07	−0·788	+ 3·03	−3·9	52·1
	17	2	45·91	+3·389	−16·01	−4·7	54·5
550	14	3	9·79	+1·722	−10·09	−5·9	54·5
	4*	5	21·13	−0·788	+ 3·97	−5·0	53·9
	8*	3	27·29	−3·946	+12·31	−3·1	53·2
	17	4	41·91	+3·390	−12·01	−3·5	53·2
551	15	3	39·74	+0·889	− 4·79	−5·4	53·4
	5*	3	56·55	−0·779	+ 2·60	−3·3	54·3
	16	2	12·77	+1·122	− 5·92	−5·3	54·5
	7*	2	0·98	−1·389	+ 5·62	−4·1	53·9
552	4*	5	20·48	−0·788	+ 4·62	−5·9	53·6
	15	5	39·71	+0·889	− 4·76	−5·4	52·4
	6*	5	58·00	−1·177	+ 2·40	−2·0	52·9
	16	2	10·06	+1·122	− 3·21	−2·9	52·7
557	16	3	13·04	+1·122	− 6·19	−5·5	54·8
	7*	2	59·45	−1·389	+ 7·15	−5·2	53·7
	8*	1	17·37	−3·944	+22·23	−5·7	54·3
	17	1	48·93	+3·392	−19·03	−5·6	54·9
558	15	5	40·47	+0·889	− 5·52	−6·2	52·7
	5*	5	55·94	−0·779	+ 3·21	−4·1	54·3
562	16	2	14·24	+1·122	− 7·39	−6·6	53·8
	7*	2	58·56	−1·389	+ 8·04	−5·8	55·3
	17	2	50·54	+3·393	−20·64	−6·1	54·4
	18	5	47·45	+1·068	− 6·70	−6·3	55·4

Table of Instrumental Errors (*continued*).

Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	"	"
563	8*	2	16·51	−3·942	+23·09	−5·9	54·6
	17	3	50·89	+3·393	−20·99	−6·2	54·6
565	5*	3	54·64	−0·779	+ 4·51	−5·8	54·4
	16	3	13·28	+1·122	− 6·43	−5·7	54·0
	8*	1	16·88	−3·941	+22·72	−5·8	54·3
	17	1	47·19	+3·393	−17·29	−5·1	53·8
	19	2	54·68	+1·435	− 8·48	−5·9	54·1
566	6*	3	54·55	−1·177	+ 5·85	−5·0	54·2
	17	2	49·56	+3·394	−19·66	−5·8	55·1
	18	3	46·43	+1·068	− 5·68	−5·3	54·4
	9*	5	37·11	−1·901	+ 8·09	−4·3	54·1
574	6*	5	55·32	−1·177	+ 5·08	−4·3	54·3
	16	5	12·91	+1·123	− 6·06	−5·4	53·8
	18	3	45·21	+1·068	− 4·46	−4·2	54·9
576	6*	4	54·92	−1·177	+ 5·48	−4·7	55·0
	16	3	11·68	+1·123	− 4·83	−4·3	56·3
	8*	2	23·55	−3·938	+16·05	−4·1	54·4
	17	3	44·19	+3·396	−14·29	−4·2	54·3
580	6*	5	54·49	−1·177	+ 5·91	−5·0	54·7
	16	3	13·45	+1·123	− 6·60	−5·9	54·8
	7*	3	59·37	−1·388	+ 7·23	−5·2	53·9
	8*	3	19·33	−3·936	+20·27	−5·2	54·5
585	6*	5	55·75	−1·177	+ 4·65	−4·0	54·0
	16	5	13·52	+1·123	− 6·67	−6·0	54·7
	7*	5	0·69	−1·388	+ 5·91	−4·3	55·9
	8*	3	21·35	−3·934	+18·25	−4·6	55·7
	19	3	55·39	+1·436	− 9·19	−6·4	55·9
586	16	5	12·44	+1·123	− 5·59	−5·0	56·3
	7*	5	0·06	−1·388	+ 6·54	−4·7	56·1
	8*	3	17·50	−3·934	+22·10	−5·6	55·3
588	16	4	12·42	+1·123	− 5·57	−5·0	53·4
	7*	5	0·32	−1·388	+ 6·28	−4·5	53·0
	8*	5	22·46	−3·933	+17·14	−4·4	53·7
	10*	1	47·17	−2·426	+10·33	−4·2	53·5
	20	2	54·12	+1·092	− 4·62	−4·3	52·7
589	16	5	12·22	+1·123	− 5·37	−4·8	54·6
	7*	5	59·44	−1·388	+ 7·16	−5·2	54·2
	8*	3	21·45	−3·933	+18·15	−4·6	53·7
	19	3	53·28	+1·436	− 7·08	−4·9	54·3
591	16	5	12·21	+1·123	− 5·36	−4·8	54·8
	7*	5	59·76	−1·388	+ 6·84	−4·9	54·1
	8*	3	21·60	−3·932	+18·00	−4·6	53·9
	20	3	54·70	+1·092	− 5·20	−4·8	54·8
592	8*	3	23·97	−3·932	+15·63	−4·0	54·3
	17	5	43·66	+3·401	−13·76	−4·0	53·7
	19	3	52·01	+1·436	− 5·81	−4·0	54·3
597	16	5	13·56	+1·123	− 6·71	−6·0	54·9
	7*	5	58·84	−1·388	+ 7·76	−5·6	54·1
	8*	3	17·09	−3·930	+22·51	−5·8	53·5
	17	3	51·84	+3·402	−21·94	−6·5	53·4
	11*	5	15·85	−1·057	+ 5·95	−5·6	54·6
602	8*	3	18·61	−3·929	+20·99	−5·4	54·4
	17	5	47·83	+3·405	−17·93	−5·3	53·2
	9*	3	33·77	−1·897	+11·43	−6·0	54·1
	19	3	54·89	+1·437	− 8·69	−6·0	54·4
	10*	1	46·62	−2·424	+10·88	−4·5	54·8
604	16	5	13·08	+1·123	− 6·23	−5·6	55·3
	7*	5	59·36	−1·388	+ 7·24	−5·2	55·0
	8*	3	21·28	−3·929	+18·32	−4·7	54·6
	17	5	46·76	+3·405	−16·86	−4·9	54·5
	20	4	55·77	+1·093	− 6·27	−5·8	54·3
605	8*	3	22·66	−3·929	+16·94	−4·3	55·0
	17	5	45·14	+3·405	−15·24	−4·5	54·1
	20	2	55·90	+1·093	− 6·40	−5·9	54·8
	11*	5	17·23	−1·057	+ 4·57	−4·3	54·3
606	8*	3	21·93	−3·929	+17·67	−4·5	55·2
	17	5	44·16	+3·405	−14·26	−4·2	55·7
	9*	5	34·69	−1·897	+10·51	−5·6	54·4
	12*	1	12·04	−2·552	+10·06	−4·0	55·1
607	8*	3	26·81	−3·929	+12·79	−3·3	54·8
	17	5	42·25	+3·405	−12·35	−3·6	54·1
	18	3	45·92	+1·070	− 5·15	−4·8	54·7
	11*	2	17·83	−1·057	+ 3·97	−3·8	54·1
615	8*	3	16·81	−3·927	+22·79	−5·8	55·3
	17	5	47·50	+3·407	−17·60	−5·2	55·7
	18	3	46·27	+1·070	− 5·52	−5·2	55·5
	10*	2	45·05	−2·420	+12·45	−5·2	54·3
616	8*	3	22·51	−3·927	+17·09	−4·4	57·8
	17	5	46·25	+3·407	−16·35	−4·8	57·7
	18	3	45·62	+1·070	− 4·87	−4·6	58·5
	9*	3	38·77	−1·896	+ 6·43	−3·4	57·0
619	8*	3	21·75	−3·927	+17·85	−4·5	58·9
	17	5	46·57	+3·408	−16·67	−4·9	58·5
	18	2	43·40	+1·070	− 2·65	−2·5	58·8
	9*	3	39·82	−1·896	+ 5·38	−2·8	59·9
629	17	5	41·99	+3·409	−12·09	−3·5	58·0
	18	4	44·45	+1·070	− 3·70	−3·5	58·7
	19	3	51·10	+1·439	− 4·90	−3·4	58·4
	2	3	41·91	+2·614	−10·71	−4·1	56·8
	13*	1	1·18	−2·424	+ 9·32	−3·9	57·7
631	17	5	40·67	+3·410	−10·77	−3·2	57·1
	18	5	44·40	+1·070	− 3·65	−3·4	57·8
	9*	5	39·12	−1·895	+ 6·08	−3·2	57·5
	19	1	52·11	+1·439	− 5·91	−4·1	57·3
632	17	5	44·45	+3·410	−14·55	−4·3	58·8
	18	5	45·16	+1·070	− 4·41	−4·1	58·5
	9*	5	38·19	−1·895	+ 7·01	−3·7	57·7
	19	5	52·76	+1·439	− 6·56	−4·6	57·7
633	17	3	44·44	+3·410	−14·54	−4·3	58·7
	9*	3	37·66	−1·895	+ 7·54	−4·0	57·4
	19	2	52·43	+1·439	− 6·23	−4·3	58·2
	20	3	53·47	+1·094	− 3·97	−3·6	59·3
639	18	5	45·91	+1·070	− 5·16	−4·8	62·8
	9*	5	36·80	−1·894	+ 8·40	−4·4	61·9
	19	5	51·62	+1·439	− 5·42	−3·8	60·8
	1	2	38·42	+2·178	− 7·72	−3·5	61·4
645	18	5	44·13	+1·070	− 3·38	−3·2	59·6
	9*	5	39·76	−1·894	+ 5·44	−2·8	59·4
655	18	5	45·05	+1·070	− 4·30	−4·0	58·7
	9*	5	38·37	−1·894	+ 6·83	−3·6	58·3
	12*	2	15·84	−2·543	+ 6·26	−2·5	58·9
	1	3	36·62	+2·180	− 5·92	−2·7	58·7
	2	2	38·88	+2·619	− 7·68	−2·9	58·2
656	9*	5	41·07	−1·894	+ 4·13	−2·2	59·1
	19	5	49·26	+1·440	− 3·06	−2·1	59·0
	10*	3	53·46	−2·416	+ 4·04	−1·7	59·2
	1	3	35·83	+2·180	− 5·13	−2·3	58·5
664	9*	3	39·71	−1·893	+ 5·49	−2·9	59·3
	19	5	49·94	+1·440	− 3·74	−2·6	58·6
	11*	3	20·46	−1·055	+ 1·34	−1·3	58·6
	12*	1	16·19	−2·542	+ 5·91	−2·3	58·9
	1	3	33·09	+2·182	− 2·39	−1·1	58·4
669	9*	5	42·79	−1·893	+ 2·41	−1·3	58·1
	19	5	48·47	+1·440	− 2·27	−1·6	57·8
	10*	3	54·49	−2·414	+ 3·01	−1·2	58·5
	1	3	34·60	+2·182	− 3·90	−1·8	57·2
676	20	3	50·97	+1·095	− 1·47	−1·3	58·7
	11*	5	21·84	−1·055	− 0·04	+0·0	57·5
	12*	3	21·50	−2·540	+ 0·60	−0·2	59·0
	1	5	28·90	+2·183	+ 1·80	+0·8	57·7
	4	5	25·26	+0·789	− 0·16	−0·2	57·2
682	20	5	50·30	+1·095	− 0·80	−0·7	58·1
	11*	5	21·98	−1·055	− 0·18	+0·2	58·5
	12*	3	27·93	−2·539	− 5·83	+2·3	59·5
	1	3	30·69	+2·183	+ 0·01	+0·0	58·8
	2	3	28·61	+2·624	+ 2·59	+1·0	58·3
	13*	2	13·15	−2·416	− 2·65	+1·1	59·8

Table of Instrumental Errors (*continued*).

Day.	Star.	w.	t.	f.	d.	w.	P.p.
			s		s	′	″
683	2	3	29·49	+2·624	+ 1·71	+0·7	57·3
	13*	2	13·61	−2·416	− 3·11	+ 1·3	59·0
	3	3	30·81	+1·870	+ 3·69	+ 2·0	59·1
	14*	3	4·88	−1·717	− 5·18	+ 3·0	58·9
690	10*	3	56·68	−2·413	+ 0·82	−0·3	58·2
	20	3	51·62	+1·095	− 2·12	−1·9	59·7
	11*	5	23·23	−1·054	− 1·43	+ 1·4	57·9
692	1	4	30·31	+2·184	+ 0·39	+0·2	58·0
	2	3	32·14	+2·625	− 0·94	−0·4	57·7
	13*	3	10·84	−2·414	− 0·34	+0·1	57·9
693	11*	5	22·07	−1·054	− 0·27	+0·3	56·6
	12*	3	23·67	−2·538	− 1·57	+0·6	57·4
	1	5	28·86	+2·184	+ 1·84	+0·8	57·1
	2	5	29·28	+2·625	+ 1·92	+0·7	56·4
	5	5	59·02	+0·779	+ 0·13	+0·2	56·4
696	20	4	48·73	+1·095	+ 0·77	+0·7	57·7
	11*	4	23·04	−1·054	− 1·24	+ 1·2	56·4
	1	3	27·61	+2·185	+ 3·09	+ 1·4	57·5
698	19	3	46·14	+1·441	+ 0·06	+0·0	57·7
	10*	3	58·84	−2·412	− 1·34	+0·6	57·4
	12*	3	22·95	−2·537	− 0·85	+0·3	57·1
	1	2	29·43	+2·185	+ 1·27	+0·6	57·5
	5	5	58·82	+0·779	+ 0·33	+0·4	56·6
703	20	5	48·23	+1·096	+ 1·27	+ 1·2	57·2
	11*	2	22·56	−1·054	− 0·76	+0·7	56·4
	2	3	29·75	+2·627	+ 1·45	+0·6	56·5
	4	5	24·25	+0·789	+ 0·85	+ 1·1	57·8
	15*	3	36·47	−0·888	− 1·52	+ 1·7	57·5
704	20	5	48·98	+1·096	+ 0·52	+0·5	57·3
	11*	5	22·38	−1·054	− 0·58	+0·6	56·4
	2	3	29·62	+2·627	+ 1·58	+0·6	56·7
	13*	2	12·12	−2·412	− 1·62	+0·7	56·7
	6	5	59·55	+1·178	+ 0·85	+0·7	57·0
705	20	3	48·57	+1·096	+ 0·93	+0·9	56·8
	12*	2	24·90	−2·536	− 2·80	+ 1·1	57·2
	2	3	28·96	+2·627	+ 2·24	+0·9	56·3
710	5	5	58·03	+0·780	+ 1·12	+ 1·4	57·2
	16	3	58·73	+1·178	+ 1·67	+ 1·4	57·0
	6*	3	9·24	−1·122	− 2·39	+ 2·1	55·9
711	20	5	47·74	+1·096	+ 1·76	+ 1·6	57·8
	2	3	28·36	+2·628	+ 2·84	+ 1·1	56·4
	13*	1	15·56	−2·412	− 5·06	+ 2·1	57·7
	7	3	4·39	+1·389	+ 2·21	+ 1·6	57·6
713	14*	3	4·51	−1·714	− 4·81	+ 2·8	56·4
	4	3	23·46	+0·789	− 1·64	+ 2·1	58·2
716	12*	2	25·43	−2·536	− 3·33	+ 1·3	57·6
	2	3	28·44	+2·628	+ 2·76	+ 1·1	56·2
	6	4	59·48	+1·178	+ 0·92	+0·8	57·0
	16*	5	8·03	−1·122	− 1·18	+ 1·0	56·8
	7	5	4·98	+1·389	+ 1·62	+ 1·2	56·7
717	20	3	48·64	+1·096	+ 0·86	+0·8	57·7
	11*	3	23·18	−1·054	− 1·38	+ 1·3	57·2
	4	5	23·64	+0·789	+ 1·46	+ 1·8	57·7
	15*	5	36·87	−0·888	− 1·92	+ 2·2	58·5
	6	5	58·59	+1·178	+ 1·81	+ 1·5	57·2
718	20	5	47·39	+1·096	+ 2·11	+ 1·9	58·2
	11*	5	23·21	−1·054	− 1·41	+ 1·3	56·9
	5	5	58·09	+0·780	+ 1·06	+ 1·4	56·8
	6	5	58·62	+1·178	+ 1·78	+ 1·5	57·8
719	2	3	26·28	+2·628	+ 4·92	+ 1·9	58·2
	14*	3	4·89	−1·714	− 5·19	+ 3·0	57·3
	4	3	22·68	+0·789	+ 2·42	+ 3·1	58·1
	8	5	27·04	+3·937	+12·56	+ 3·2	56·8
720	11*	5	24·26	−1·054	− 2·46	+ 2·4	59·5
	2	3	26·32	+2·628	+ 4·88	+ 1·9	59·1
	13*	2	15·54	−2·410	− 5·04	+ 2·1	59·1
725	2	2	26·24	+2·629	+ 4·96	+ 1·9	56·7
	13*	2	17·13	−2·410	− 6·63	+ 2·8	57·4
	3	3	29·14	+1·873	+ 5·36	+ 2·9	57·5
	5	5	57·33	+0·780	+ 1·82	+ 2·3	57·1
728	11*	5	25·14	−1·054	− 3·34	+ 3·2	56·6
	2	5	24·25	+2·629	+ 6·95	+ 2·7	57·8
	4	5	22·55	+0·789	+ 2·55	+ 3·2	57·2
	15*	5	37·66	−0·888	− 2·71	+ 3·0	57·8
739	2	3	26·20	+2·630	+ 5·00	+ 1·9	56·2
	13*	2	15·13	−2·410	− 4·63	+ 1·9	57·2
	5	5	58·22	+0·780	+ 0·93	+ 1·2	56·7
	17*	4	36·45	−3·403	− 6·55	+ 1·9	56·2
741	14*	2	4·78	−1·712	− 5·08	+ 3·0	57·5
	4	1	23·57	+0·790	+ 1·53	+ 1·9	57·4
	7	5	4·17	+1·390	+ 2·43	+ 1·8	57·9
	18*	5	43·44	−1·070	− 2·69	+ 2·5	57·4
742	2	3	23·88	+2·630	+ 7·32	+ 2·8	56·2
	13*	2	19·70	−2·410	− 9·20	+ 3·8	57·1
	5	5	57·60	+0·780	+ 1·55	+ 2·0	57·3
	8	3	30·71	+3·944	+ 8·89	+ 2·3	56·5
743	2	3	25·26	+2·630	+ 5·94	+ 2·3	57·5
	13*	2	19·01	−2·410	− 8·51	+ 3·5	57·5
	5	5	58·02	+0·780	+ 1·13	+ 1·5	57·0
744	2	3	27·50	+2·630	+ 3·70	+ 1·4	56·4
	13*	2	17·71	−2·410	− 7·21	+ 3·0	59·1
	14*	2	5·46	−1·712	− 5·76	+ 3·4	57·6
	5	2	57·39	+0·780	+ 1·76	+ 2·3	57·7
754	14*	4	5·88	−1·712	− 6·18	+ 3·6	57·3
	4	3	22·95	+0·790	+ 2·15	+ 2·7	57·2
	15*	5	38·12	−0·887	− 3·17	+ 3·6	57·6
	5	5	57·04	+0·780	+ 2·11	+ 2·7	58·0
	6	2	57·25	+1·180	+ 3·15	+ 2·7	57·1
755	3	1	29·90	+1·875	+ 4·60	+ 2·4	56·7
	14*	3	5·03	−1·712	− 5·33	+ 3·1	58·8
	4	5	22·94	+0·790	+ 2·16	+ 2·7	57·4
758	16*	3	10·10	−1·121	− 3·25	+ 2·9	59·8
	7	5	2·77	+1·391	+ 3·83	+ 2·8	58·6
	18*	5	43·88	−1·070	− 3·13	+ 2·9	58·7
	9	3	39·33	+1·895	+ 5·87	+ 3·1	58·5
759	4	5	23·51	+0·790	+ 1·59	+ 2·0	58·7
	15*	5	37·46	−0·887	− 2·51	+ 2·8	58·2
	5	5	57·98	+0·780	+ 1·17	+ 1·5	57·3
	9	3	41·06	+1·895	+ 4·14	+ 2·2	57·2
769	14*	3	4·30	−1·712	− 4·60	+ 2·7	55·9
	4	5	23·44	+0·790	+ 1·66	+ 2·1	57·4
	15*	3	37·83	−0·887	− 2·88	+ 3·2	57·1
771	14*	3	4·73	−1·712	− 5·03	+ 2·9	56·9
776	4	5	23·57	+0·790	+ 1·53	+ 1·9	57·8
	15*	5	37·39	−0·887	− 2·44	+ 2·8	58·0
	5	5	57·87	+0·780	+ 1·28	+ 1·6	57·6
	16*	3	9·59	−1·120	− 2·74	+ 2·4	58·2
	7	5	4·07	+1·392	+ 2·53	+ 1·8	56·8
789	6	3	57·01	+1·180	+ 3·39	+ 2·9	56·5
	16*	3	9·42	−1·119	− 2·57	+ 2·3	56·1
	7	5	1·71	+1·392	+ 4·89	+ 3·5	57·0
	17*	3	46·40	−3·390	−16·50	+ 4·9	57·3
796	17*	3	41·99	−3·388	−12·09	+ 3·6	56·9
	9	3	38·70	+1·897	+ 6·50	+ 3·4	58·1
	19*	2	50·32	−1·438	− 4·12	+ 2·9	57·3
	10	3	52·43	+2·418	+ 5·07	+ 2·1	56·8
797	8	2	27·58	+3·961	+12·02	+ 3·0	56·8
	17*	3	41·64	−3·388	−11·74	+ 3·4	57·4
802	17*	3	38·94	−3·388	− 9·04	+ 2·7	57·4
	18*	3	43·79	−1·069	− 3·04	+ 2·9	57·2
803	17*	5	38·17	−3·388	− 8·27	+ 2·4	56·4
	10	3	50·99	+2·418	+ 6·51	+ 2·7	56·7
	20*	2	52·77	−1·094	− 3·27	+ 3·0	56·8
	11	5	19·00	+1·055	+ 2·80	+ 2·7	57·3

Table of Instrumental Errors (*continued*).

Day.	Star.	w.	t.	f.	d.	m.	P. p.
			s		s	"	"
813	8	3	29·91	+3·962	+ 9·69	+2·4	56·7
	17*	3	39·93	−3·386	−10·03	+3·0	56·1
	10	1	54·86	+2·420	+ 2·64	+1·1	56·5
	12	3	16·98	+2·542	+ 5·12	+2·0	56·9
815	17*	3	38·63	−3·386	− 8·73	+2·6	56·2
	9	3	41·56	+1·898	+ 3·64	+1·9	56·7
	10	3	53·90	+2·420	+ 3·60	+1·5	56·0
	13	3	5·09	+2·415	+ 5·41	+2·2	55·1
816	17*	3	40·24	−3·386	−10·34	+3·0	56·3
	9	3	39·40	+1·898	+ 5·80	+3·0	56·3
	11	3	19·51	+1·056	+ 2·29	+2·2	56·9
	2*	1	38·18	−2·623	− 6·98	+2·7	56·4
817	12	3	14·18	+2·543	+ 7·92	+3·1	57·1
	1*	2	37·57	−2·182	− 6·87	+3·2	56·3
	13	1	4·40	+2·415	+ 6·10	+2·5	56·2
818	17*	3	40·29	−3·386	−10·39	+3·1	56·9
	18*	3	44·81	−1·068	− 4·06	+3·8	56·7
	9	5	38·96	+1·898	+ 6·24	+3·3	56·9
	12	2	15·38	+2·543	+ 6·72	+2·7	56·5
819	17*	3	40·74	−3·386	−10·84	+3·2	57·1
	9	5	37·97	+1·898	+ 7·23	+3·8	56·3
	12	2	13·58	+2·543	+ 8·52	+3·4	54·9
	3*	3	39·30	−1·872	− 4·80	+2·6	54·3
820	18*	3	43·73	−1·068	− 2·98	+2·8	56·5
	9	5	39·36	+1·898	+ 5·84	+3·1	56·8
	19*	2	51·79	−1·437	− 5·59	+3·9	56·8
	10	3	49·72	+2·420	+ 7·78	+3·2	57·1
	12	3	13·88	+2·543	+ 8·22	+3·2	56·4
821	9	5	38·27	+1·898	+ 6·93	+3·6	57·2
	19*	3	51·68	−1·437	− 5·48	+3·8	56·0
	10	3	50·46	+2·420	+ 7·04	+2·9	56·5
	11	5	18·47	+1·056	+ 3·33	+3·2	56·8
836	9	3	43·15	+1·899	+ 2·05	+1·1	57·8
	19*	3	46·83	−1·437	− 0·63	+0·4	56·8
	10	3	57·85	+2·422	− 0·35	−0·1	57·3
	11	5	21·78	+1·056	+ 0·02	+0·0	56·7
839	19*	3	49·15	−1·437	− 2·95	+2·1	57·4
	10	5	55·43	+2·422	+ 2·07	+0·9	56·3
	11	5	20·04	+1·056	+ 1·76	+1·7	57·3
	12	2	19·38	+2·546	+ 2·72	+1·1	58·0
840	19*	3	47·91	−1·437	− 1·71	+1·2	55·6
	10	5	56·81	+2·422	+ 0·69	+0·3	55·8
	20*	3	50·86	−1·094	− 1·36	+1·2	57·4
	11	5	20·81	+1·056	+ 0·99	+0·9	56·3
841	19*	3	48·74	−1·437	− 2·54	+1·8	59·1
	10	3	56·27	+2·422	+ 1·23	+0·5	56·9
	11	5	20·49	+1·056	+ 1·31	+1·2	57·8
	12	3	19·69	+2·546	+ 2·41	+1·0	56·4
842	20*	3	51·73	−1·094	− 2·23	+2·1	57·8
	11	5	20·36	+1·056	+ 1·44	+1·4	58·1
	12	3	14·81	+2·546	+ 7·29	+2·9	57·2
	2*	3	34·91	−2·619	− 3·71	+1·4	57·6
854	20*	3	49·46	−1·094	+ 0·04	−0·0	58·5
	11	5	22·02	+1·056	− 0·22	−0·2	58·4
	12	3	23·50	+2·547	− 1·40	−0·6	57·7
	1*	2	31·07	−2·178	− 0·37	+0·2	57·6
866	3*	3	35·37	−1·868	− 0·87	+0·5	57·2
	14	3	1·78	+1·716	− 2·08	−1·2	57·6
867	14	3	0·38	+1·716	− 0·68	−0·4	58·4
	4*	3	24·98	−0·789	+ 0·12	−0·2	58·4
	15	3	36·11	+0·888	− 1·16	−1·3	56·7
869	1*	3	31·03	−2·177	− 0·33	+0·2	56·8
	13	2	10·67	+2·422	− 0·17	−0·1	56·6
	6*	5	1·42	−1·179	− 1·02	+0·9	57·8
	16	5	7·01	+1·120	− 0·16	−0·1	58·1
870	1*	3	31·26	−2·177	− 0·56	+0·3	57·0
	13	2	9·23	+2·422	+ 1·27	+0·5	56·5
	14	2	59·88	+1·716	− 0·18	−0·1	57·2
	5*	3	1·94	−0·780	− 2·79	(+3·6)	58·1

Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	"	"
872	1*	3	32·56	−2·177	− 1·86	+0·9	57·1
	13	5	10·34	+2·422	+ 0·16	+0·1	56·3
	6*	5	1·34	−1·179	− 0·94	+0·8	58·3
	16	5	7·63	+1·120	− 0·78	−0·7	57·6
878	4*	3	25·88	−0·789	− 0·78	+1·0	57·5
	15	3	35·53	+0·888	− 0·58	−0·7	56·8
	5*	3	59·60	−0·780	− 0·45	+0·6	58·0
	16	3	8·55	+1·120	− 1·70	−1·5	58·5
882	4*	3	23·97	−0·789	+ 1·13	−1·4	57·6
	15	5	36·55	+0·888	− 1·60	−1·8	56·6
	16	2	5·87	+1·120	+ 0·98	+0·9	57·6
883	3*	2	31·43	−1·867	+ 3·07	−1·6	58·0
	15	3	36·60	+0·888	− 1·65	−1·9	57·9
	5*	3	59·61	−0·780	− 0·46	+0·6	58·3
	16	3	8·06	+1·120	− 1·21	−1·1	58·5
884	3*	3	31·82	−1·867	+ 2·68	−1·4	57·4
	15	2	35·57	+0·888	− 0·62	−0·7	56·3
	6*	3	3·52	−1·179	− 3·12	(+2·7)	57·5
	16	3	8·28	+1·120	− 1·43	−1·3	56·8
886	3*	3	33·01	−1·867	+ 1·49	−0·8	55·8
	14	1	2·40	+1·718	− 2·70	−1·6	56·3
	15	1	37·02	+0·888	− 2·07	−2·3	56·4
	6*	2	0·45	−1·179	− 0·05	+0·0	56·3
887	14	3	1·73	+1·718	− 2·03	−1·2	56·7
	4*	3	24·88	−0·789	+ 0·22	−0·3	57·4
	5*	3	59·26	−0·780	− 0·11	+0·1	57·5
	16	3	8·62	+1·120	− 1·77	−1·6	57·2
891	14	5	3·71	+1·718	− 4·01	−2·3	56·5
	4*	5	23·85	−0·789	+ 1·25	−1·6	56·4
	15	5	37·27	+0·888	− 2·32	−2·6	56·6
	8*	1	36·70	−3·950	+ 2·90	−0·7	56·8
896	14	3	7·65	+1·718	− 7·95	−4·6	57·1
	4*	3	22·57	−0·789	+ 2·53	−3·2	57·8
	15	3	38·19	+0·888	− 3·24	−3·6	56·4
	5*	3	57·29	−0·779	+ 1·86	−2·4	56·6
903	4*	5	22·11	−0·789	+ 2·99	−3·8	57·2
	15	5	38·76	+0·889	− 3·81	−4·3	56·5
	5*	3	57·17	−0·779	+ 1·98	−2·5	58·0
907	15	5	38·66	+0·889	− 3·71	−4·2	56·8
	5*	5	57·53	−0·779	+ 1·62	−2·1	56·8
	7*	3	4·07	−1·390	+ 2·53	−1·8	58·1
	17	2	31·30	+3·396	− 1·40	−0·4	57·1
908	15	3	38·38	+0·889	− 3·43	−3·9	55·3
	5*	3	57·96	−0·779	+ 1·19	−1·5	56·5
	8*	1	30·46	−3·943	+ 9·14	−2·3	56·0
	17	3	38·22	+3·396	− 8·32	−2·4	56·6
909	15	5	38·49	+0·889	− 3·54	−4·0	55·9
	5*	5	56·75	−0·779	+ 2·40	−3·1	56·5
	6*	3	57·27	−1·178	+ 3·13	−2·7	55·9
	16	2	11·75	+1·122	− 4·90	−4·4	55·6
912	5*	3	56·72	−0·779	+ 2·43	−3·1	56·6
	6*	3	56·54	−1·178	+ 3·86	−3·3	57·2
	16	5	10·75	+1·122	− 3·90	−3·5	56·6
	7*	3	3·80	−1·390	+ 2·80	−2·0	57·2
914	5*	3	56·32	−0·779	+ 2·83	−3·6	55·3
	6*	3	58·52	−1·178	+ 1·88	−1·6	54·1
	16	3	8·81	+1·122	− 1·96	−1·8	54·2
	7*	3	2·40	−1·390	+ 4·20	−3·0	55·3
916	6*	3	55·22	−1·178	+ 5·18	−4·4	53·8
	16	5	11·59	+1·122	− 4·74	−4·2	55·2
	7*	3	1·49	−1·390	+ 5·11	−3·7	54·9
919	16	5	12·50	+1·122	− 5·65	−5·1	55·9
	7*	5	0·94	−1·390	+ 5·66	−4·1	55·1
	8*	1	24·26	−3·939	+15·34	−3·9	54·9
	17	1	45·43	+3·399	−15·53	−4·6	55·4
927	6*	5	55·46	−1·179	+ 4·94	−4·2	54·2
	16	5	13·00	+1·122	− 6·15	−5·5	55·1
	7*	5	0·00	−1·389	+ 6·60	−4·8	54·2
	18	5	46·49	+1·069	− 5·74	−5·4	55·9

Table of Instrumental Errors (*continued*).

Day.	Star.	w.	t.	f.	d.	m.	P.p.	Day.	Star.	w.	t.	f.	d.	m.	P.p.
			s		s	″	″				s		s	″	″
929	16	3	12·29	+1·122	− 5·44	−4·9	55·3	955	16	3	14·02	+1·122	− 7·17	−6·4	55·2
	7*	3	0·78	−1·389	+ 5·82	−4·2	55·3		7*	3	59·63	−1·388	+ 6·97	−5·0	55·3
936	6*	5	55·34	−1·177	+ 5·06	−4·3	54·0	957	17	3	53·34	+3·411	−23·44	−6·9	54·4
	16	5	12·93	+1·122	− 6·08	−5·4	54·2		18	5	47·47	+1·070	− 6·72	−6·3	55·9
	7*	5	0·13	−1·389	+ 6·47	−4·7	54·9		9*	1	35·28	−1·894	+ 9·92	−5·3	55·7
	18	3	46·07	+1·070	− 5·32	−5·0	54·3	964	16	5	12·89	+1·122	− 6·04	−5·4	56·1
940	6*	3	55·79	−1·177	+ 4·61	−3·9	53·9		7*	5	58·92	−1·388	+ 7·68	−5·5	56·2
	16	3	12·09	+1·122	− 5·24	−4·7	54·4		8*	3	19·73	−3·926	+19·87	−5·1	56·6
	7*	5	1·08	−1·388	+ 5·52	−4·0	54·1		17	2	49·12	+3·412	−19·22	−5·6	57·0
	19	3	50·89	+1·438	− 4·69	−3·3	55·4	975	8*	3	21·41	−3·922	+18·19	−4·6	55·8
941	6*	3	56·14	−1·177	+ 4·26	−3·6	53·9		17	3	47·30	+3·413	−17·40	−5·1	57·4
	16	5	11·50	+1·122	− 4·65	−4·2	54·8		18	3	44·59	+1·070	− 3·84	−3·6	56·5
	7*	5	2·73	−1·388	+ 3·87	−2·8	55·4		9*	2	36·72	−1·892	+ 8·48	−4·5	56·2
	19	1	51·93	+1·438	− 5·73	−4·0	55·7	976	18	5	47·30	+1·071	− 6·55	−6·1	56·2
942	16	5	11·87	+1·122	− 5·02	−4·5	54·6		19	3	50·62	+1·441	− 4·42	−3·1	57·6
	7*	5	1·86	−1·388	+ 4·74	−3·4	54·2		10*	2	52·77	−2·413	+ 4·73	−2·0	56·3
	8*	3	24·97	−3·931	+14·63	−3·7	53·8		2	3	40·38	+2·620	− 9·18	−3·5	57·1
	18	3	44·25	+1·070	− 3·50	−3·3	55·0	977	17	3	47·45	+3·415	−17·55	−5·1	56·0
943	16	5	12·04	+1·122	− 5·19	−4·6	54·4		18	5	45·83	+1·071	− 5·08	−4·8	56·4
	7*	5	1·31	−1·388	+ 5·29	−3·8	54·1		9*	2	35·25	−1·892	+ 9·95	−5·3	56·2
	8*	3	24·65	−3·931	+14·95	−3·8	53·1		10*	2	46·39	−2·413	+11·11	−4·6	55·2
	19	3	52·81	+1·438	− 6·61	−4·6	54·8	978	17	3	48·06	+3·416	−18·16	−5·3	55·5
944	16	5	12·61	+1·122	− 5·76	−5·2	54·6		18	5	45·86	+1·071	− 5·11	−4·8	56·9
	7*	5	59·67	−1·388	+ 6·93	−5·0	54·3		9*	3	37·19	−1·892	+ 8·01	−4·3	55·7
	8*	3	21·38	−3·931	+18·22	−4·7	53·2		10*	2	49·53	−2·413	+ 7·97	−3·3	55·7
	19	1	52·83	+1·438	− 6·63	−4·6	54·1	989	18	5	46·94	+1·071	− 6·19	−5·8	56·5
945	8*	3	22·14	−3·930	+17·46	−4·4	54·2		9*	5	36·04	−1·891	+ 9·16	−4·9	55·2
	17	3	47·69	+3·407	−17·79	−5·2	53·6		19	5	53·99	+1·442	− 7·79	−5·4	56·4
	18	1	46·71	+1·070	− 5·96	−5·6	53·8		1	3	40·21	+2·184	− 9·51	−4·4	56·0
	20	5	56·41	+1·093	− 6·91	−6·4	54·0	992	19	3	53·08	+1·442	− 6·88	−4·8	56·8
946	16	3	12·43	+1·122	− 5·58	−5·0	54·2		10*	3	47·16	−2·411	+10·34	−4·3	56·4
	7*	3	59·50	−1·388	+ 7·10	−5·1	54·7		20	3	55·41	+1·096	− 5·91	−5·4	56·1
	8*	3	20·10	−3·930	+19·50	−5·0	54·5		12*	2	12·08	−2·538	+10·02	−4·0	56·2
	19	1	54·38	+1·439	− 8·18	−5·7	54·9		1	3	41·14	+2·184	−10·44	−4·8	56·0
947	16	5	14·64	+1·122	− 7·79	−7·0	54·2	993	19	5	52·88	+1·442	− 6·68	−4·6	56·2
	7*	5	58·86	−1·388	+ 7·74	−5·6	55·1		10*	3	48·75	−2·411	+ 8·75	−3·6	57·1
	8*	3	27·34	−3·930	+12·26	−3·1	54·8		20	3	55·28	+1·096	− 5·78	−5·3	57·1
	18	3	46·01	+1·070	− 5·26	−4·9	54·5		12*	3	9·25	−2·538	+12·85	−5·1	55·8
									1	3	39·95	+2·184	− 9·25	−4·2	56·1

For explanation of the arrangement of this Table, see page xviii of the Introduction. To convert the numbers in the column 'Day' into the usual reckoning, see Table on pages xxxiv to xxxvi. An asterisk following the number in column 'Star' indicates the star was observed at its inferior transit. The letter *d* following numbers in columns '*m.*' and '*P.p.*' indicates that the corrections mentioned on page xxiv were applied previously to the adoption of the values in the preceding Table. The microscopes were re-adjusted previously to the readings on days 312, 426, 616, 639, 655, and 914.

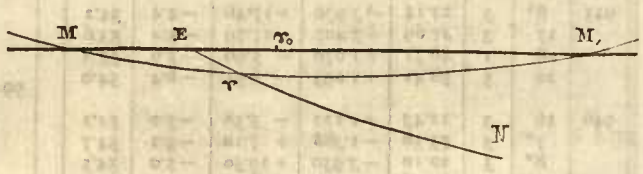
APPENDIX,

CONTAINING DEMONSTRATIONS OF THE FORMULÆ REQUIRED IN THE REDUCTION OF MERIDIAN OBSERVATIONS FOR THE ASTRONOMICAL CORRECTIONS FOR PRECESSION, NUTATION, AND ABERRATION.

THE investigations which follow are chiefly derived from M. Le Verrier's *Annales de l'Obs. Imp. de Paris*, Bessel's *Tabulæ Regiomontanæ*, and Dr. Brünnow's *Lehrbuch der Sph. Astronomie;* and pretend to little more than convenience of arrangement with uniformity of notation. The constants are those adopted by Dr. Peters in his *Num. Const. Nutationis.*

The effect of the combined attractions of the sun and moon on the protuberant matter of the Earth's Equator in rotation is, while leaving unaltered the velocity of rotation and the position of the poles on its surface, to vary the line of intersection of its Equator with the Ecliptic and the inclination or obliquity of the two planes. These variations contain terms of long and short periods, secular and periodic terms, which are distinctively termed the precessions and nutations. In addition to these there is a similar variation of the Ecliptic itself, caused by planetary perturbation. It will be convenient to consider first the effect of the mean precessions.

If M E M$_,$ be the Ecliptic of 1800·0, Υ_0 the mean Equinox, and ω_0 the mean obliquity of 1800·0, then at $1800 + t$, the line of intersection will by luni-solar action have regressed to E, and E Υ_0 the luni-solar precession of the Equinox will be—



$$\psi = 50''\cdot3798\,.\,t - 0''\cdot0001084\,.\,t^2;$$

and the mean obliquity of the Equator with the same fixed Ecliptic will have become—

$$\omega = \omega_0 + 0''\cdot00000735\,.\,t^2$$

or very slightly increased from—

$$\omega_0 = 23^\circ\cdot27'\cdot54''\cdot45.$$

At the same time the ecliptic itself will have moved from M Υ_0 M$_,$ to M Υ M$_,$ the ascending node M$_,$ lying in about 172° of longitude from Υ_0, or more correctly—

$$\Pi = \Upsilon_0\,M_, = 172^\circ\cdot45'\cdot32'' - 8''\cdot504\,.\,t^2$$

the inclination of the new to the fixed ecliptic of 1800·0 being

$$\pi = \Upsilon\,M\,\Upsilon_0 = 0''\cdot4776\,.\,t - 0''\cdot000003445\,.\,t^2$$

It will be seen by reference to the figure that the variation of position of the ecliptic will cause the point of intersection of the equator and ecliptic to advance again from E to Υ, and will diminish the obliquity Υ_0 E Υ to E Υ M. Accordingly, by way of analogy with

$$M\,E = 180^\circ - (\Pi + \psi)$$

it is usual to write

$$M\,\Upsilon = 180^\circ - (\Pi + \psi_,)$$

and to call $\psi_,$ the *general* precession as distinguished from ψ the *luni-solar* precession in longitude.

Whence

$$\psi_, = M\,\Upsilon_0 - M\,\Upsilon.$$

From the triangle M E Υ, in which we know the quantities

$$M\,E = 180^\circ - (\Pi + \psi), \qquad M\,E\,\Upsilon = 180^\circ - \omega, \qquad E\,M\,\Upsilon = \pi,$$

we might now compute the three remaining quantities

$$E\,\Upsilon = \nu, \qquad E\,\Upsilon\,M = \omega_,, \qquad \text{and } M\,\Upsilon = 180^\circ - (\Pi + \psi_,);$$

but the order of derivation in practice is necessarily different: for theory, combined with observation of the sun and stars at distant epochs, leads first to the mean values and secular variations

of the precession and obliquity. Thus there have been established

$$\psi = 50''\cdot3798\,.\,t - 0''\cdot0001084\,.\,t^2 \quad \text{luni-solar prec.}$$
$$\psi_1 = 50''\cdot2411\,.\,t + 0''\cdot0001134\,.\,t^2 \quad \text{general prec.}$$
$$\omega = \omega_0 + 0''\cdot00000735\,.\,t^2$$
$$\omega_1 = \omega_0 - 0''\cdot4738\,.\,t - 0''\cdot0000014\,.\,t^2$$
$$\omega_0 = 23^\circ\cdot27'\cdot54''\cdot45 \quad \text{for } 1800\cdot0, \text{ (whence } t \text{ is reckoned.)}$$

With the above quantities as known in the same triangle M E Υ, the relations

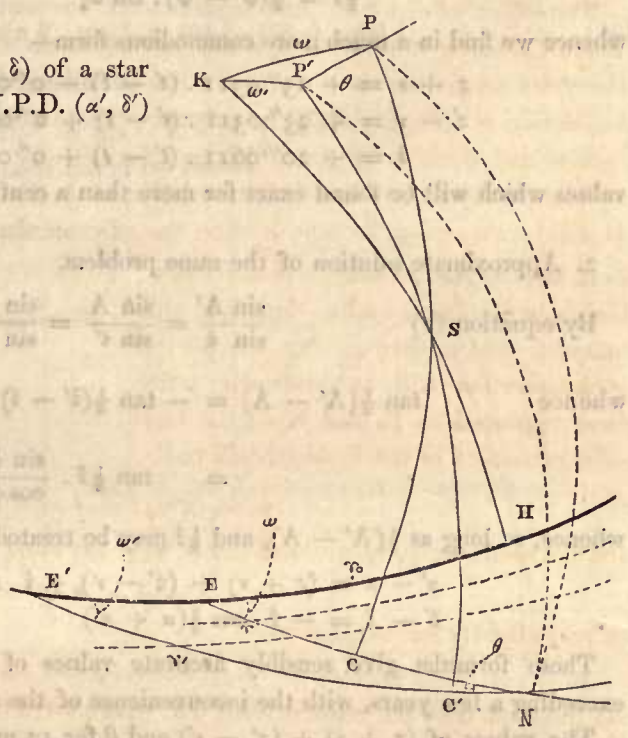
$$\mathfrak{A} = \tan\tfrac{1}{2}\pi\,.\,\sin\{\Pi + \tfrac{1}{2}(\psi + \psi_1)\} = \sin\tfrac{1}{2}(\psi - \psi_1)\,.\,\tan\tfrac{1}{2}(\omega_1 + \omega)$$
$$\mathfrak{B} = \tan\tfrac{1}{2}\pi\,.\,\cos\{\Pi + \tfrac{1}{2}(\psi + \psi_1)\} = \cos\tfrac{1}{2}(\psi - \psi_1)\,.\,\tan\tfrac{1}{2}(\omega_1 - \omega)$$
$$\tan\tfrac{1}{2}\nu\,.\,\cos\tfrac{1}{2}(\omega_1 + \omega) = \tan\tfrac{1}{2}(\psi - \psi_1)\,.\,\cos\tfrac{1}{2}(\omega_1 - \omega)$$

supply the remainder; namely—

$$\Pi = 172^\circ\cdot45'\cdot32'' - 8''\cdot504\,.\,t$$
$$\pi = 0''\cdot4776\,.\,t - 0''\cdot000003445\,.\,t^2$$
$$\nu = 0''\cdot15119\,.\,t - 0''\cdot00024186\,.\,t^2$$

which with the foregoing are termed the Elements of Precession.

1. From the mean R.A. and N.P.D. (α, δ) of a star at $1800 + t$, to compute the mean R.A. and N.P.D. (α', δ') at $1800 + t'$.



Let E′ E H be the ecliptic
... Υ_0 the mean equinox } of $1800\cdot0$,
... E N the equator
... Υ the mean equinox } of $1800 + t$,
... E′ N the equator
... Υ' the mean equinox } of $1800 + t'$,
and E N E′ $= \theta$, their mutual inclination.

Also, in accordance with previous notation, or as auxiliary angles, let

$$\text{E E}' = \psi' - \psi$$
$$\text{E N} = 90^\circ - z$$
$$\text{E}'\text{N} = 90^\circ + z'$$
$$\text{S P} = \delta$$
$$\text{S P}' = \delta'$$

$$\text{E}\,\Upsilon = \nu$$
$$\text{E C} = \alpha + \nu$$
$$\text{C N} = \text{E N} - \text{E C} = 90^\circ - (\alpha + z + \nu) = 90^\circ - \text{A}$$

$$\text{E}'\,\Upsilon' = \nu'$$
$$\text{E}'\text{C}' = \alpha' + \nu'$$
$$\text{C}'\text{N} = \text{E}'\text{N} - \text{E}'\text{C}' = 90^\circ - (\alpha' - z' + \nu') = 90^\circ - \text{A}'$$

Then in triangle P S P′, we have

$$\text{P P}' = \theta, \quad \text{S P P}' = \text{A}, \quad \text{S P}'\text{P} = 180^\circ - \text{A}';$$

and the relations

$$\sin\delta'\,.\,\sin\text{A}' = \sin\delta\,.\,\sin\text{A} \tag{1}$$
$$\sin\delta'\,.\,\cos\text{A}' = \sin\delta\,.\,\cos\text{A}\,.\,\cos\theta - \cos\delta\,.\,\sin\theta \tag{2}$$
$$\cos\delta' = \sin\delta\,.\,\cos\text{A}\,.\,\sin\theta + \cos\delta\,.\,\cos\theta \tag{3}$$

The triangle E N E′ also gives the following:—

$$\tan\tfrac{1}{2}(z' + z) = \frac{\cos\frac{1}{2}(\omega' + \omega)}{\cos\frac{1}{2}(\omega' - \omega)}\,.\,\tan\tfrac{1}{2}(\psi' - \psi) \tag{4}$$
$$\tan\tfrac{1}{2}(z' - z) = \frac{\sin\frac{1}{2}(\omega' - \omega)}{\sin\frac{1}{2}(\omega' + \omega)}\,.\,\cot\tfrac{1}{2}(\psi' - \psi) \tag{5}$$
$$\tan\tfrac{1}{2}\theta = \frac{\sin\frac{1}{2}(z' + z)}{\cos\frac{1}{2}(z' - z)}\,.\,\tan\tfrac{1}{2}(\omega' + \omega) \tag{6}$$

which six equations, together with

$$A = \alpha + z + \nu \qquad \text{and } \alpha' = A' + z' - \nu',$$

contain the solution of the problem.

Dividing $(1) \cdot \cos A - (2) \cdot \sin A$ by $(1) \cdot \sin A + (2) \cdot \cos A$, and writing

$$p = \sin\theta \cdot \operatorname{cotan}\delta + \cos A \cdot (1 - \cos\theta) \tag{7}$$

we find

$$\tan(A' - A) = \frac{p \cdot \sin A}{1 - p \cdot \cos A} \tag{8}$$

and one of Napier's analogies gives us

$$\tan\tfrac{1}{2}(\delta' - \delta) = -\frac{\cos\tfrac{1}{2}(A' + A)}{\cos\tfrac{1}{2}(A' - A)} \cdot \tan\tfrac{1}{2}\theta \tag{9}$$

In by far the greater number of cases which occur in practice, the second term in equation (7) may be dropped, $\cos\theta$ differing from unity only by 1 in the fifth place of decimals for $\theta = 1000''$, (corresponding to $t' - t = 50$ years); and we may replace equations (4), (5), and (6) by—

$$\begin{aligned} \tfrac{1}{2}(z' - z) &= +\,0''{\cdot}075573 \cdot (t' + t) + 0''{\cdot}0000001626 \cdot (t' + t)^2 \\ \tfrac{1}{2}(z' + z) &= \tfrac{1}{2}(\psi' - \psi) \cdot \cos\omega_0 \\ \tfrac{1}{2}\theta &= \tfrac{1}{2}(\psi' - \psi) \cdot \sin\omega_0 \end{aligned}$$

whence we find in a much more commodious form—

$$\left.\begin{aligned} z + \nu &= +\,23''{\cdot}0311 \cdot (t' - t) - 0''{\cdot}0001922 \cdot t^2 - 0''{\cdot}0000497 \cdot t'^2 \\ z' - \nu' &= +\,23''{\cdot}0311 \cdot (t' - t) + 0''{\cdot}0000497 \cdot t^2 + 0''{\cdot}0001922 \cdot t'^2 \\ \theta &= +\,20''{\cdot}0611 \cdot (t' - t) + 0''{\cdot}0000432 \cdot t^2 - 0''{\cdot}0000432 \cdot t'^2 \end{aligned}\right\} \tag{10}$$

values which will be found exact for more than a century from 1800.

2. Approximate solution of the same problem.

By equation (1)

$$\frac{\sin A'}{\sin\delta} = \frac{\sin A}{\sin\delta'} = \frac{\sin A' - \sin A}{\sin\delta - \sin\delta'} = \frac{\sin A' + \sin A}{\sin\delta + \sin\delta'}$$

whence

$$\tan\tfrac{1}{2}(A' - A) = -\tan\tfrac{1}{2}(\delta' - \delta) \cdot \frac{\tan\tfrac{1}{2}(A' + A)}{\tan\tfrac{1}{2}(\delta' + \delta)}$$

$$= \tan\tfrac{1}{2}\theta \cdot \frac{\sin\tfrac{1}{2}(A' + A)}{\cos\tfrac{1}{2}(A' - A)} \cdot \cot\tfrac{1}{2}(\delta' + \delta) \quad \ldots \text{ by (9)}$$

whence, so long as $\tfrac{1}{2}(A' - A)$, and $\tfrac{1}{2}\theta$ may be treated as small angles,

$$\alpha' - \alpha = (z + \nu) + (z' - \nu') + \theta \cdot \sin\tfrac{1}{2}(\alpha + \alpha') \cdot \cot\tfrac{1}{2}(\delta + \delta') \tag{11}$$

$$\delta' - \delta = -\theta \cdot \cos\tfrac{1}{2}(\alpha + \alpha') \tag{12}$$

These formulæ give sensibly accurate values of $\alpha' - \alpha$, $\delta' - \delta$, for intervals of time not exceeding a few years, with the inconvenience of the necessity of once repeating the calculation.

The values of $(z + \nu) + (z' - \nu')$ and θ for 12 months may be found from equations (10) by putting $t' = t + 1$; whence, writing m and n for the annual amounts,

$$\begin{aligned} m &= +\,46''{\cdot}0623 + 0''{\cdot}0002850 \cdot t \\ n &= +\,20''{\cdot}0607 - 0''{\cdot}0000862 \cdot t \end{aligned}$$

3. The variation of the position-angle of two stars by precession.

If in triangle P S P′, S be the primary star, the position-angle will receive the increment P S P′ in the interval $t' - t$.

$$\frac{\sin(p' - p)}{\sin\theta} = \frac{\sin A}{\sin\delta'} = \frac{\sin A'}{\sin\delta} = \frac{\sin A + \sin A'}{\sin\delta + \sin\delta'}$$

$$= \frac{\sin\tfrac{1}{2}(A' + A) \cdot \cos\tfrac{1}{2}(A' - A)}{\sin\tfrac{1}{2}(\delta' + \delta) \cdot \cos\tfrac{1}{2}(\delta' - \delta)}$$

whence

$$p' = p + \theta \cdot \sin\tfrac{1}{2}(\alpha + \alpha') \cdot \operatorname{cosec}\tfrac{1}{2}(\delta + \delta'), \text{ very nearly.}$$

4. The variation of annual proper motions in R.A. and N.P.D. by precession.

Inverting equations (1), (2), and (3) we have—

$$\sin\delta \cdot \sin A = \sin\delta' \cdot \sin A' \tag{13}$$

$$\sin\delta \cdot \cos A = \sin\delta' \cdot \cos A' \cdot \cos\theta + \cos\delta' \cdot \sin\theta \tag{14}$$

$$\cos\delta = -\sin\delta' \cdot \cos A' \cdot \sin\theta + \cos\delta' \cdot \cos\theta \tag{15}$$

Differentiating (1), (2), and (3), we have—

$$\Delta\delta' . \cos\delta' . \sin A' + \Delta\alpha' . \sin\delta' . \cos A' = \Delta\delta . \cos\delta . \sin A + \Delta\alpha . \sin\delta . \cos A, \quad (16)$$

$$\Delta\delta' . \cos\delta' . \cos A' - \Delta\alpha' . \sin\delta' . \sin A' = \Delta\delta . (\cos\delta . \cos A . \cos\theta + \sin\delta . \sin\theta) - \Delta\alpha . \sin\delta . \sin A . \cos\theta \quad (17)$$

$$-\sin\delta' . \Delta\delta' = \Delta\delta . (\cos\delta . \cos A . \sin\theta - \sin\delta . \cos\theta) - \Delta\alpha . \sin\delta . \sin A . \sin\theta \quad (18)$$

Eliminating $\Delta\delta'$ from (16) and (17), we find

$$\sin\delta' . \Delta\alpha' = \Delta\alpha . (\sin\delta . \cos A . \cos A' + \sin\delta . \sin A . \sin A' . \cos\theta) + \Delta\delta . (\cos\delta . \sin A . \cos A' - \cos\delta . \cos A . \sin A' . \cos\theta - \sin\delta . \sin A' . \sin\theta)$$

By (14) . cos A′ + (13) . sin A′ . cos θ, and (1) . cos A′ − (2) . sin A′, this becomes

$$\sin\delta' . \Delta\alpha' = \Delta\alpha (\sin\delta' . \cos\theta + \cos\delta' . \cos A' . \sin\theta) - \frac{\Delta\delta}{\sin\delta} . \sin A' . \sin\theta \quad (19)$$

From (18) and (1) we likewise find

$$\Delta\delta' = \Delta\alpha . \sin A' . \sin\theta + \frac{\Delta\delta}{\sin\delta . \sin\delta'} . (\sin^2\delta . \cos\theta - \sin\delta . \cos\delta . \cos A . \sin\theta)$$

$$= \ldots \quad \ldots + \frac{\Delta\delta}{\sin\delta . \sin\delta'} . (\sin^2\delta' . \cos\theta + \sin\delta' . \cos\delta' . \cos A' . \sin\theta)$$

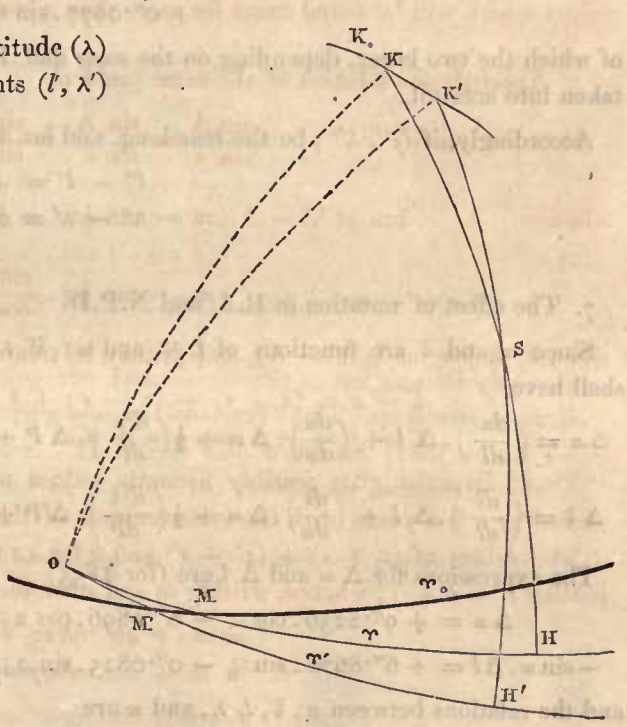
$$= \Delta\alpha . \sin A' . \sin\theta + \frac{\Delta\delta}{\sin\delta} . (\sin\delta' . \cos\theta + \cos\delta' . \cos A' . \sin\theta) \quad (20)$$

expressions which will be found to satisfy the condition

$$\overline{\sin\delta' . \Delta\alpha'}|^2 + \overline{\Delta\delta'}|^2 = \overline{\sin\delta . \Delta\alpha}|^2 + \overline{\Delta\delta}|^2$$

Equations (19) and (20) are the formulæ made use of by Bessel.

5. From a star's mean longitude (l) and latitude (λ) at 1800 + t, to compute the similar elements (l', λ') at 1800 + t'.



Let S be the star,

... M Υ_0 the ecliptic of 1800·0,

... K_0 its pole,

... O M H the ecliptic of 1800 + t,

... K its pole,

... O M′ H′ the ecliptic of 1800 + t',

... K′ its pole;

O M M′ = π, O M′ M = 180° − π',

M M′ = $\Pi' - \Pi$;

Whence, writing $\Pi = P - p . t$,

$$O M = (\Pi' - \Pi) . \frac{\pi'}{\pi' - \pi} = p . t';$$

O M′ = $p . t$, very approximately;

$$\therefore \quad O K H = O M \Upsilon H = p . t' + 180° - \Pi - \psi_1 + l = 90° - A \quad \text{suppose}$$

$$O K' H' = O M' \Upsilon' H' = p . t + 180° - \Pi' - \psi_1' + l' = 90° - A' \quad ,,$$

$$\therefore \quad S K K' = A = 270° + P - p . (t + t') + \psi_1 - l$$

$$180° - S K' K = A' = 270° + P - p . (t + t') + \psi_1' - l'$$

$$K K' = \pi' - \pi, \qquad S K = d = 90° - \lambda, \qquad S K' = d' = 90° - \lambda'.$$

Whence, by triangle S K K′,

$$\tan\tfrac{1}{2}(d' - d) = -\tan\tfrac{1}{2}(\pi' - \pi) . \frac{\cos\tfrac{1}{2}(A' + A)}{\cos\tfrac{1}{2}(A' - A)}$$

$$\tan\tfrac{1}{2}(A' - A) = -\tan\tfrac{1}{2}(d' - d) . \frac{\tan\tfrac{1}{2}(A' + A)}{\tan\tfrac{1}{2}(d' + d)}$$

$$= \tan\tfrac{1}{2}(\pi' - \pi) . \frac{\sin\tfrac{1}{2}(A' + A)}{\cos\tfrac{1}{2}(A' - A)} . \operatorname{cotan}\tfrac{1}{2}(d' + d)$$

Now $\frac{1}{2}(A' - A) = -\frac{1}{2}(l' - l) + \frac{1}{2}(\psi_{,}' - \psi_{,})$

$\frac{1}{2}(A' + A) = 270^\circ + P - p.(t + t') - \frac{1}{2}(l + l') + \frac{1}{2}(\psi_{,} + \psi_{,}')$

Therefore very approximately

$$l' - l = \psi_{,}' - \psi_{,} + (\pi' - \pi).\tan\tfrac{1}{2}(\lambda + \lambda').\cos\{\tfrac{1}{2}(l + l') - \tfrac{1}{2}(\psi_{,} + \psi_{,}') - P + p.(t + t')\}$$

$$\lambda' - \lambda = -(\pi' - \pi).\sin\{\tfrac{1}{2}(l + l') - \tfrac{1}{2}(\psi_{,} + \psi_{,}') - P + p.(t + t')\}$$

Let
$$\begin{aligned} M &= \tfrac{1}{2}(\psi_{,}' + \psi_{,}) - \tfrac{1}{2}(l' - l) + P - p\,(t + t') \\ &= P + \psi_{,} - p\,(t + t') \\ &= 172^\circ.45'.32'' + 50''\cdot2411\,.\,t - 8''\cdot504\,(t + t') \end{aligned}$$

Then
$$l' = l + (\psi_{,}' - \psi_{,}) + (\pi' - \pi).\tan\lambda.\cos(l - M) \qquad (21)$$

$$\lambda' = \lambda - (\pi' - \pi).\sin(l - M)\ldots\ldots \text{ very nearly.} \qquad (22)$$

The similarity of derivation of the preceding formulæ with those in section (2) will indicate how to proceed in cases where the last degree of accuracy is required.

6. In the next place we have to consider the effect of the nutations.

Inasmuch as these arise from a motion of the earth's equator, the latitudes of stars remain unaffected, and the longitudes receive the common increment $\Delta\psi$. The expression for $\Delta\psi$ is found to contain the following terms with others of less significance:

$$\begin{aligned} \Delta\psi = &-17''\cdot2500.\sin\Omega + 0''\cdot2073.\sin 2\Omega - 1''\cdot2695.\sin 2\odot - 0''\cdot2041.\sin 2\mathbb{C} \\ &+ 0''\cdot1277.\sin(\odot - \Gamma) \\ &+ 0''\cdot0677.\sin(\mathbb{C} - \Gamma') \end{aligned}$$

of which the two latter, depending on the solar and lunar perigees, have not hitherto been usually taken into account.

Accordingly, if (l'', λ'') be the *true* long. and lat. for $1800 + t'$

$$l'' - l' = +\Delta\psi \qquad (23)$$

$$\lambda'' - \lambda' = 0. \qquad (24)$$

7. The effect of nutation in R.A. and N.P.D.

Since α and δ are functions of l, λ, and ω; if λ remains constant, while l and ω vary, we shall have

$$\Delta\alpha = \left(\frac{d\alpha}{dl}\right).\Delta l + \left(\frac{d\alpha}{d\omega}\right).\Delta\omega + \tfrac{1}{2}\left(\frac{d^2\alpha}{dl^2}\right).\Delta l^2 + \left(\frac{d^2\alpha}{d\omega.dl}\right).\Delta\omega.\Delta l + \tfrac{1}{2}\left(\frac{d^2\alpha}{d\omega^2}\right).\Delta\omega^2 + \ldots \&c.$$

$$\Delta\delta = \left(\frac{d\delta}{dl}\right).\Delta l + \left(\frac{d\delta}{d\omega}\right).\Delta\omega + \tfrac{1}{2}\left(\frac{d^2\delta}{dl^2}\right).\Delta l^2 + \left(\frac{d^2\delta}{d\omega.dl}\right).\Delta\omega.\Delta l + \tfrac{1}{2}\left(\frac{d^2\delta}{d\omega^2}\right).\Delta\omega^2 + \ldots \&c.$$

The expressions for $\Delta\omega$ and Δl are (for 1855)

$$\Delta\omega = +9''\cdot2236.\cos\Omega - 0''\cdot0896.\cos 2\Omega + 0''\cdot5508.\cos 2\odot + 0''\cdot0885.\cos 2\mathbb{C}$$

$$-\sin\omega.\Delta l = +6''\cdot8670.\sin\Omega - 0''\cdot0825.\sin 2\Omega + 0''\cdot5054.\sin 2\odot + 0''\cdot0813.\sin 2\mathbb{C}$$

and the relations between α, δ, l, λ, and ω are

$$\begin{aligned} \sin\delta.\cos\alpha &= \cos\lambda.\cos l \\ \sin\delta.\sin\alpha &= \cos\lambda.\sin l.\cos\omega - \sin\lambda.\sin\omega \\ \cos\delta &= \cos\lambda.\sin l.\sin\omega + \sin\lambda.\cos\omega; \end{aligned}$$

whence by successive differentiations will be found

$$\begin{aligned} \alpha'' - \alpha' = &(\cot\omega + \sin\alpha'.\cot\delta').\sin\omega.\Delta l - \cos\alpha'.\cot\delta'.\Delta\omega \\ &+ \tfrac{1}{2}\sin 1''.(\tfrac{1}{2}\sin 2\alpha' + \cos\alpha'.\cot\delta'.\cot\omega + \sin 2\alpha'.\cot^2\delta').\sin^2\omega.\Delta l^2 \\ &- \sin 1''.(\cos^2\alpha' - \sin\alpha'.\cot\delta'.\cot\omega + \cos 2\alpha'.\cot^2\delta').\sin\omega.\Delta\omega.\Delta l \\ &- \tfrac{1}{2}\sin 1''.(\tfrac{1}{2}\sin 2\alpha' + \sin 2\alpha'.\cot^2\delta').\Delta\omega^2 + \&c. \end{aligned}$$

$$\begin{aligned} \delta'' - \delta' = &-\cos\alpha'.\sin\omega.\Delta l - \sin\alpha'.\Delta\omega \\ &+ \tfrac{1}{2}\sin 1''.(\sin\alpha'.\cot\omega + \sin^2\alpha'.\cot\delta').\sin^2\omega.\Delta l^2 \\ &- \sin 1''.(\cos\alpha'.\cot\omega + \sin\alpha'.\cos\alpha'.\cot\delta').\sin\omega.\Delta\omega.\Delta l \\ &+ \tfrac{1}{2}\sin 1''.(\cos^2\alpha'.\cot\delta').\Delta\omega^2 + \&c. \end{aligned}$$

If we now agree to reject non-periodic terms and all terms which at their maxima amount to less

than $0^{s}\cdot005$ in R.A. and $0''\cdot005$ in N.P.D., the above reduce to—

$$\begin{aligned}\alpha''-\alpha' = &-\cot\omega\,(6''\cdot8670\,.\sin\mathfrak{S}-0''\cdot0825\,.\sin 2\mathfrak{S}+0''\cdot5054\,.\sin 2\odot+0''\cdot0813\,.\sin 2\mathbb{C})\\ &-\sin\alpha'\,.\cot\delta'\,(6''\cdot8670\,.\sin\mathfrak{S}-0''\cdot0822\,.\sin 2\mathfrak{S}+0''\cdot5054\,.\sin 2\odot+0''\cdot0813\,.\sin 2\mathbb{C})\\ &-\cos\alpha'\,.\cot\delta'\,(9''\cdot2236\,.\cos\mathfrak{S}-0''\cdot0895\,.\cos 2\mathfrak{S}+0''\cdot5508\,.\cos 2\odot+0''\cdot0885\,.\cos 2\mathbb{C})\\ &-0''\cdot000160\,.\sin 2\alpha'\,.\cot^2\delta'\,.\cos 2\mathfrak{S}\\ &+0''\cdot000154\,.\cos 2\alpha'\,.\cot^2\delta'\,.\sin 2\mathfrak{S}\end{aligned}\qquad(25)$$

$$\begin{aligned}\delta''-\delta' = &\cos\alpha'\,(6''\cdot8670\,.\sin\mathfrak{S}-0''\cdot0822\,.\sin 2\mathfrak{S}+0''\cdot5054\,.\sin 2\odot+0''\cdot0813\,.\sin 2\mathbb{C})\\ &-\sin\alpha'\,(9''\cdot2236\,.\cos\mathfrak{S}-0''\cdot0895\,.\cos 2\mathfrak{S}+0''\cdot5508\,.\cos 2\odot+0''\cdot0885\,.\cos 2\mathbb{C})\\ &+0''\cdot000080\,.\cos 2\alpha'\,.\cot\delta'\,.\cos 2\mathfrak{S}\\ &+0''\cdot000077\,.\sin 2\alpha'\,.\cot\delta'\,.\sin 2\mathfrak{S}\end{aligned}\qquad(26)$$

8. It is convenient in the next place to combine formulæ (25) and (26) with those for precession in R.A. and N.P.D. for a short period, such as a year, the usual extent of an Ephemeris of star-constants. We shall consider below what error of computation is introduced by taking these formulæ as

$$\alpha'-\alpha = +20''\cdot0560\,.\,\tau\,.\,(\cot\omega+\sin\alpha'\,.\cot\delta')\qquad(27)$$

$$\delta'-\delta = -20''\cdot0560\,.\,\tau\,.\cos\alpha'\qquad(28)$$

where τ is the fraction of a tropical year from the epoch of reduction, instead of formulæ (11) and (12) which would be exact. If we assume

$$p\,.\sin(180^\circ-\mathrm{P}) = +6''\cdot8670\,.\sin\mathfrak{S}-0''\cdot0822\,.\sin 2\mathfrak{S}+0''\cdot5054\,.\sin 2\odot-20''\cdot0560\,.\,\tau$$

$$p\,.\cos(180^\circ-\mathrm{P}) = +9''\cdot2236\,.\cos\mathfrak{S}-0''\cdot0895\,.\cos 2\mathfrak{S}+0''\cdot5508\,.\cos 2\odot$$

we shall find—

$$\begin{aligned}\alpha''-\alpha = &-p\,.\sin\mathrm{P}\,.\cot\omega+p\,.\cot\delta'\,.\cos(\mathrm{P}+\alpha')+0''\cdot0850\,.\cot\delta'\,.\cos(180^\circ-2\mathbb{C}+\alpha')+a\\ &-0''\cdot000160\,.\sin 2\alpha'\,.\cot^2\delta'\,.\cos 2\mathfrak{S}\\ &+0''\cdot000154\,.\cos 2\alpha'\,.\cot^2\delta'\,.\sin 2\mathfrak{S}\end{aligned}\qquad(29)$$

$$\begin{aligned}\delta''-\delta = &+p\,.\sin(\mathrm{P}+\alpha')+0''\cdot0850\,.\sin(180^\circ-2\mathbb{C}+\alpha')+b\\ &+0''\cdot000080\,.\cos 2\alpha'\,.\cot\delta'\,.\cos 2\mathfrak{S}\\ &+0''\cdot000077\,.\sin 2\alpha'\,.\cot\delta'\,.\sin 2\mathfrak{S}\end{aligned}\qquad(30)$$

where $a = +0''\cdot0007\,.\sin 2\mathfrak{S}-0''\cdot1872\,.\sin 2\mathbb{C}-0''\cdot0036\,.\cot\delta'\,.\cos(\alpha'+2\mathbb{C})$

and $b = -0''\cdot0036\,.\sin(\alpha'+2\mathbb{C})$,

all of which are rejected as insensible, excepting the term $-0''\cdot1872\,.\sin 2\mathbb{C}$, which is also omitted as small, nearly constant for the night during observations, and equally applicable to clock-stars, and therefore nearly insensible by subtraction. The terms with argument $(180^\circ-2\mathbb{C}+\alpha')$ are kept separate from the rest of the nutations as varying too rapidly for computation in an Ephemeris as usually constructed.

In the above formulæ, for facility of combination, we have computed precession by the expressions

$$\alpha'-\alpha = \tau\,.\,(46''\cdot218+20''\cdot056\,.\sin\alpha'\,.\cot\delta')$$

$$\delta'-\delta = \tau\,.\,(-20''\cdot056\,.\cos\alpha')$$

instead of

$$\alpha'-\alpha = \tau\,.\,\{46''\cdot078+20''\cdot056\,.\sin\tfrac{1}{2}(\alpha+\alpha')\,.\cot\tfrac{1}{2}(\delta+\delta')\}$$

$$\delta'-\delta = \tau\,.\,\{-20''\cdot056\,.\cos\tfrac{1}{2}(\alpha+\alpha')\}\,.$$

Excepting for stars in the neighbourhood of the Pole, the error introduced is insensible, as the following table of the differences (for $\tau = 1$) will show:

α	$0^\circ.45'$	$1^\circ.0'$	$2^\circ.0'$	$4^\circ.0'$	$0^\circ.45'$	$1^\circ.0'$	$2^\circ.0'$	$4^\circ.0'$	α
°	^{s}	^{s}	^{s}	^{s}	$''$	$''$	$''$	$''$	°
15	−0·20	−0·12	−0·04	−0·01	−0·01	−0·01	−0·00	−0·00	15
45	−0·40	−0·23	−0·06	−0·01	−0·04	−0·03	−0·02	−0·01	45
75	−0·20	−0·12	−0·04	−0·01	−0·07	−0·05	−0·03	−0·01	75
105	+0·18	+0·11	+0·03	+0·01	−0·07	−0·05	−0·03	−0·01	105
135	+0·39	+0·22	+0·05	+0·01	−0·04	−0·03	−0·02	−0·01	135
165	+0·20	+0·12	+0·03	+0·01	−0·01	−0·01	−0·00	−0·00	165
195	−0·18	−0·11	−0·03	−0·01	−0·01	−0·01	−0·00	−0·00	195
225	−0·37	−0·21	−0·05	−0·01	−0·04	−0·03	−0·02	−0·01	225
255	−0·18	−0·11	−0·03	−0·01	−0·07	−0·05	−0·03	−0·01	255
285	+0·19	+0·11	+0·02	+0·01	−0·07	−0·05	−0·03	−0·01	285
315	+0·37	+0·21	+0·05	+0·01	−0·04	−0·03	−0·02	−0·01	315
345	+0·18	+0·10	+0·02	+0·01	−0·01	−0·01	−0·00	−0·00	345

The quantities here tabulated for the sake of ready inspection of their amounts arise almost wholly from those terms of the second order in the formulæ for precession which are multiplied by $\cot^2 \delta'$ in R.A. and $\cot \delta'$ in N.P.D. Formulæ (11) and (12) may be written—

$$\alpha' - \alpha = \tau \cdot \left\{ m + n \cdot \sin \left(\alpha' - \tfrac{1}{2}(\alpha' - \alpha) \right) \cdot \cot \left(\delta' - \tfrac{1}{2}(\delta' - \delta) \right) \right\}$$

$$\delta' - \delta = - \tau \cdot n \cdot \cos \left(\alpha' - \tfrac{1}{2}(\alpha' - \alpha) \right)$$

Now,
$$\sin \left(\alpha' - \tfrac{1}{2}(\alpha' - \alpha) \right) = \sin \alpha' - \tfrac{1}{2}(\alpha' - \alpha) \sin 1'' \cdot \cos \alpha', \text{ nearly,}$$

$$\cos \left(\alpha' - \tfrac{1}{2}(\alpha' - \alpha) \right) = \cos \alpha' + \tfrac{1}{2}(\alpha' - \alpha) \sin 1'' \cdot \sin \alpha', \text{ nearly,}$$

$$\cot \left(\delta' - \tfrac{1}{2}(\delta' - \delta) \right) = \cot \delta' + \operatorname{cosec}^2 \delta' \cdot \tan \tfrac{1}{2}(\delta' - \delta), \text{ nearly,}$$

$$= \cot \delta' - \tfrac{1}{2} \tau \cdot n \cdot \sin 1'' \cdot \cos \alpha' \cdot \cot^2 \delta', \text{ nearly,}$$

for stars near the Pole, (for which $\operatorname{cosec} \delta' = \cot \delta'$;) whence, retaining in the expansions only the terms mentioned above, we find very approximately in this case

$$\alpha' - \alpha = \tau \cdot (m + n \cdot \sin \alpha' \cdot \cot \delta') - \tfrac{1}{2} \tau^2 \cdot n^2 \cdot \sin 1'' \cdot \sin 2\alpha' \cdot \cot^2 \delta'$$

$$\delta' - \delta = - \tau \cdot n \cdot \cos \alpha' - \tfrac{1}{4} \cdot \tau^2 \cdot n^2 \cdot \sin 1'' \cdot (1 - \cos 2\alpha') \cdot \cot \delta'$$

and formulæ (29) and (30) will be very nearly corrected by the addition of the terms

$$- 0''{\cdot}000976 \cdot \tau^2 \cdot \sin 2\alpha' \cdot \cot^2 \delta' \qquad \text{in R.A.} \qquad (31)$$

and
$$- 0''{\cdot}000488 \cdot \tau^2 \cdot (1 - \cos 2\alpha') \cdot \cot \delta' \qquad \text{in N.P.D.} \qquad (32)$$

depending on the square of the time from the epoch of reduction.

9. On the aberration of position of a star.

It is well known, since the immortal labours of Bradley, that the fixed stars suffer a sensible apparent displacement, in consequence of the velocity of light not being incomparably greater than that of the station of the observer. The position of the observer is being constantly displaced,

1, by the motion of the solar system in the universe,

2, by the annual revolution of the earth,

3, by the diurnal rotation of the earth on its axis;

motions which give rise to as many aberrations of the ray proceeding from a star, and termed its secular, its annual, and its diurnal aberration.

Let three rectangular coordinate-planes be taken, with any point as origin, of which the first shall be parallel to the plane of the equator in its true position, the second pass through the vernal equinox, and the third through the summer solstice; and let the optical centre of the object-glass of the telescope be denoted by the letter o, and the reference-point of the wire-frame by e. If a ray of light from a star pass, at time t, through o, whose coordinates are x, y, z, and arrive, at time t', at e, whose coordinates are x', y', z'; the line $e\,o$ will be the true direction of the star, while its apparent direction will necessarily be the line joining e and o', o' being the position of o at time t', and its coordinates

$$x + \frac{dx}{dt} \cdot (t' - t), \qquad y + \frac{dy}{dt} \cdot (t' - t), \qquad z + \frac{dz}{dt} \cdot (t' - t).$$

The projections of $e\,o$ on the coordinate-axes will be

$$x - x' = \lambda \cdot \cos \alpha \cdot \sin \delta$$

$$y - y' = \lambda \cdot \sin \alpha \cdot \sin \delta$$

$$z - z' = \lambda \cdot \cos \delta;$$

λ being the distance between o and e; and the projections of $e\,o'$ will be

$$x + \frac{dx}{dt} \cdot (t' - t) - x' = \lambda' \cdot \cos \alpha' \cdot \sin \delta$$

$$y + \frac{dy}{dt} \cdot (t' - t) - y' = \lambda' \cdot \sin \alpha' \cdot \sin \delta'$$

$$z + \frac{dz}{dt} \cdot (t' - t) - z' = \lambda' \cdot \cos \delta';$$

λ' being the focal length of the telescope. Subtracting, we have

$$\lambda' . \cos \alpha' . \sin \delta' = \lambda . \cos \alpha . \sin \delta + \frac{dx}{dt} . (t' - t)$$

$$\lambda' . \sin \alpha' . \sin \delta' = \lambda . \sin \alpha . \sin \delta + \frac{dy}{dt} . (t' - t)$$

$$\lambda' . \cos \delta' = \lambda . \cos \delta + \frac{dz}{dt} . (t' - t)$$

where λ is by supposition the space traversed by light in the interval $t' - t$; so that if k be the time required for light to traverse the radius of the Earth's orbit, the unit of distance,

$$t' - t = \lambda . k.$$

If, further, we write $\lambda' = L . \lambda$, the three equations become

$$L . \cos \alpha' . \sin \delta' = \cos \alpha . \sin \delta + k . \frac{dx}{dt} \tag{33}$$

$$L . \sin \alpha' . \sin \delta' = \sin \alpha . \sin \delta + k . \frac{dy}{dt} \tag{34}$$

$$L . \cos \delta' = \cos \delta + k . \frac{dz}{dt} \tag{35}$$

From (33) and (34) we immediately derive

$$\tan (\alpha' - \alpha) = \frac{k . \operatorname{cosec} \delta \left(\cos \alpha . \frac{dy}{dt} - \sin \alpha . \frac{dx}{dt} \right)}{1 + k . \operatorname{cosec} \delta \left(\cos \alpha . \frac{dx}{dt} + \sin \alpha . \frac{dy}{dt} \right)}$$

whence—

$$\alpha' - \alpha = - k . \operatorname{cosec} \delta . \left(\sin \alpha . \frac{dx}{dt} - \cos \alpha . \frac{dy}{dt} \right) \tag{36}$$

$$+ k^2 . \sin 1'' . \operatorname{cosec}^2 \delta . \left(\sin \alpha . \frac{dx}{dt} - \cos \alpha . \frac{dy}{dt} \right) \times \left(\cos \alpha . \frac{dx}{dt} + \sin \alpha . \frac{dy}{dt} \right)$$

to the second power of k.

Again, the sum of the squares of (33) and (34) gives

$$L . \sin \delta' = \sin \delta + k \left(\cos \alpha . \frac{dx}{dt} + \sin \alpha . \frac{dy}{dt} \right) + \tfrac{1}{2} k^2 . \operatorname{cosec} \delta . \left(\sin \alpha . \frac{dx}{dt} - \cos \alpha . \frac{dy}{dt} \right)^2$$

to the same power of k.

From this expression (which we will term A for a moment) and (35) we then derive

$$\tan (\delta' - \delta) = \frac{A . \cos \delta - \sin \delta . \cos \delta - \sin \delta . k . \frac{dz}{dt}}{\cos^2 \delta + A . \sin \delta + \cos \delta . k . \frac{dz}{dt}}$$

whence—

$$\delta' - \delta = k . \left(\cos \alpha . \cos \delta . \frac{dx}{dt} + \sin \alpha . \cos \delta . \frac{dy}{dt} - \sin \delta . \frac{dz}{dt} \right)$$

$$+ \tfrac{1}{2} . k^2 . \sin 1'' . \cot \delta . \left(\sin \alpha . \frac{dx}{dt} - \cos \alpha . \frac{dy}{dt} \right)^2 \tag{37}$$

$$- k^2 . \sin 1'' . \left(\cos \alpha . \cos \delta . \frac{dx}{dt} + \sin \alpha . \cos \delta . \frac{dy}{dt} - \sin \delta . \frac{dz}{dt} \right) \times$$

$$\left(\cos \alpha . \sin \delta . \frac{dx}{dt} + \sin \alpha . \sin \delta . \frac{dy}{dt} + \cos \delta . \frac{dz}{dt} \right),$$

also to the second power of k.

To define the coordinates x, y, z, let ξ, η, ζ be those of the sun: the coordinates of the centre of the earth from the sun will be

$$R . \cos (180^\circ + \odot), \quad R . \sin (180^\circ + \odot) . \cos \omega, \quad R . \sin (180^\circ + \odot) . \sin \omega;$$

and if ϱ be the distance of the Observatory from the centre of the Earth, ϕ its geocentric latitude, and μ the sidereal time of observation, the coordinates of the Observatory from the centre of the Earth will be

$$\varrho . \cos \phi . \cos \mu, \quad \varrho . \cos \phi . \sin \mu, \quad \varrho . \sin \phi;$$

whence

$$x = \xi - R . \cos \odot + \varrho . \cos \phi . \cos \mu$$

$$y = \eta - R . \sin \odot . \cos \omega + \varrho . \cos \phi . \sin \mu$$

$$z = \zeta - R . \sin \odot . \sin \omega + \varrho . \sin \phi$$

Differentiating the first of these equations,

$$\frac{dx}{dt} = \frac{d\xi}{dt} + \mathrm{R} \,.\, \sin \odot \,.\, \frac{d\odot}{dt} - \cos \odot \,.\, \frac{d\mathrm{R}}{dt} - \varrho \,.\, \cos \phi \,.\, \sin \mu \,.\, \frac{d\mu}{dt}.$$

Now, if a be the Sun's mean distance, e the eccentricity of the Earth's orbit, and $180° + \Gamma$ the Earth's perihelion, the equation to its path is

$$a\,(1 - e^2) = \mathrm{R} \,.\, \left\{ 1 + e \,.\, \cos\,(\odot - \Gamma) \right\}$$

whence

$$\mathrm{R} \,.\, \sin \odot \,.\, \frac{d\odot}{dt} - \cos \odot \,.\, \frac{d\mathrm{R}}{dt} = \frac{\mathrm{R}^2}{a\,(1 - e^2)} \,.\, \frac{d\odot}{dt} \,.\, (\sin \odot + e \,.\, \sin \Gamma)$$

$$= \frac{1}{\sqrt{1 - e^2}} \,.\, \frac{dm}{dt} \,.\, (\sin \odot + e \,.\, \sin \Gamma)$$

By similar operations on the second and third equations,

$$\frac{dx}{dt} = \frac{d\xi}{dt} + \frac{1}{\sqrt{1 - e^2}} \,.\, \frac{dm}{dt} \,.\, (\sin \odot + e \,.\, \sin \Gamma) - \varrho \,.\, \cos \phi \,.\, \sin \mu \,.\, \frac{d\mu}{dt}$$

$$\frac{dy}{dt} = \frac{d\eta}{dt} - \frac{\cos \omega}{\sqrt{1 - e^2}} \,.\, \frac{dm}{dt} \,.\, (\cos \odot + e \,.\, \cos \Gamma) + \varrho \,.\, \cos \phi \,.\, \cos \mu \,.\, \frac{d\mu}{dt}$$

$$\frac{dz}{dt} = \frac{d\zeta}{dt} - \frac{\sin \omega}{\sqrt{1 - e^2}} \,.\, \frac{dm}{dt} \,.\, (\cos \odot + e \,.\, \cos \Gamma) \qquad (38)$$

It is the most convenient to consider separately the three aberrations which correspond to three above portions of $\frac{dx}{dt}$, $\frac{dy}{dt}$, $\frac{dz}{dt}$.

10. Secular aberration in R.A. and N.P.D. In the present state of astronomy the motion of the Solar system is not distinguishable from one in a straight line. The elements of this motion are found by Mr. Otto Struve to be—

$$s = 1{\cdot}623 \qquad \alpha_0 = 259°.\,35'{\cdot}1 \qquad \delta_0 = 55°.\,26'{\cdot}4 \qquad \text{for } 1840$$

$$= 259°.\,43'{\cdot}2 \qquad = 55°.\,27'{\cdot}3 \qquad \text{for } 1855$$

α_0 and δ_0 being the R.A. and N.P.D. of the point in the heavens to which the Solar system is moving, and s being the amount of that motion in a year, taking the mean radius of the Earth's orbit as unity. Accordingly

$$\xi = s \,.\, \cos \alpha_0 \,.\, \sin \delta_0 \qquad \eta = s \,.\, \sin \alpha_0 \,.\, \sin \delta_0 \qquad \zeta = s \,.\, \cos \delta_0$$

$$k \,.\, \frac{ds}{dt} = \frac{s}{2\pi} \,.\, k \,.\, \frac{dm}{dt} = \frac{s}{2\pi} \times 20''{\cdot}4451 = 5''{\cdot}281$$

$20''{\cdot}4451 = \frac{k}{\sqrt{1 - e^2}} \,.\, \frac{dm}{dt}$ being the constant of annual aberration adopted by Dr. Peters, and e^2 being negligible.

Whence if we substitute the first terms of (38) in equations (36) and (37) we find

$$\Delta\alpha = - 4''{\cdot}350 \,.\, \sin\,(\alpha - 259°{\cdot}7) \,.\, \mathrm{cosec}\, \delta \qquad (39)$$

$$\Delta\delta = + 4''{\cdot}350 \,.\, \cos\,(\alpha - 259°{\cdot}7) \,.\, \cos \delta - 2''{\cdot}996 \,.\, \sin \delta \qquad (40)$$

These expressions are, however, of no practical use, the coefficients being liable to errors of one sixth of their assumed values; and there being no advantage in clearing the observed positions of stars of constant quantities which must be put on again to the deduced mean place whenever the apparent position is required. (39) and (40) are accordingly neglected altogether.

11. Annual aberration in R.A. and N.P.D. Substituting in (36) and (37) the second terms of (38), and writing $\mathrm{A} = \frac{k}{\sqrt{1 - e^2}} \,.\, \frac{dm}{dt}$,

$$\alpha' - \alpha = - \mathrm{A} \,.\, \mathrm{cosec}\, \delta \,.\, (\sin \alpha \,.\, \sin \odot + \cos \alpha \,.\, \cos \omega \,.\, \cos \odot)$$

$$- \mathrm{A}\, e \,.\, \mathrm{cosec}\, \delta \,.\, (\sin \alpha \,.\, \sin \Gamma + \cos \alpha \,.\, \cos \omega \,.\, \cos \Gamma)$$

$$+ \tfrac{1}{4} \mathrm{A}^2 \,.\, \sin 1'' \,.\, \mathrm{cosec}^2 \delta \,.\, \left\{ \sin 2\alpha \,.\, \sin^2 \omega - \sin 2\alpha \,.\, (1 + \cos^2 \omega) \,.\, \cos 2\odot + 2 \cos 2\alpha \,.\, \cos \omega \,.\, \sin 2\odot \right\}$$

$$\delta' - \delta = \quad A\,.\,(\cos\alpha\,.\,\cos\delta\,.\,\sin\odot - \sin\alpha\,.\,\cos\delta\,.\,\cos\omega\,.\,\cos\odot + \sin\delta\,.\,\sin\omega\,.\,\cos\odot)$$
$$+ A\,e\,.\,(\cos\alpha\,.\,\cos\delta\,.\,\sin\Gamma - \sin\alpha\,.\,\cos\delta\,.\,\cos\omega\,.\,\cos\Gamma + \sin\delta\,.\,\sin\omega\,.\,\cos\Gamma)$$
$$+ \tfrac{1}{8}\,.\,A^2\,.\,\sin 1''\,.\,\cot\delta\,.\,\{2\sin 2\alpha\,.\,\cos\omega\,.\,\sin 2\odot + \cos 2\alpha\,.\,(1+\cos^2\omega)\,.\,\cos 2\odot$$
$$- \cos 2\alpha\,.\,\sin^2\omega - \sin^2\omega\,.\,\cos 2\odot + (1+\cos^2\omega)\}$$

The terms depending on Γ in these expressions are commonly neglected on account of their minuteness, and the slowness of variation of Γ, the longitude of the sun's perigee, which renders them sensibly constant for many years together. Like the secular aberrations they are not deducted from apparent positions in deducing the recorded mean, and are, therefore, not applied to the recorded mean place when the apparent is needed. There are some other constant terms of small amount in the above, which are also here dropped for the same reason. If we now render our notation consistent with former articles by writing

α'', δ'', for the star's true R.A. and N.P.D., and
α''', δ''', for ——— apparent ———

and adopt, with Dr. Peters, $20''\cdot4451$ as the value of A,

$$\alpha''' - \alpha'' = - 20''\cdot4451\,.\,\operatorname{cosec}\delta''\,.\,(\sin\alpha''.\sin\odot + \cos\alpha''.\cos\omega\,.\,\cos\odot)$$
$$+ 0''\cdot00093\,.\,\operatorname{cosec}^2\delta''\,.\,\cos 2\alpha''\,.\,\sin 2\odot$$
$$- 0''\cdot00093\,.\,\operatorname{cosec}^2\delta''\,.\,\sin 2\alpha''\,.\,\cos 2\odot$$

$$\delta''' - \delta'' = + 20''\cdot4451\,.\,\cos\delta''\,.\,(\cos\alpha''\,.\,\sin\odot - \sin\alpha''\,.\,\cos\omega\,.\,\cos\odot)$$
$$+ 20''\cdot4451\,.\,\sin\delta''\,.\,\sin\omega\,.\,\cos\odot$$
$$+ 0''\cdot00047\,.\,\cot\delta''\,.\,\cos 2\alpha''\,.\,\cos 2\odot$$
$$+ 0''\cdot00046\,.\,\cot\delta''\,.\,\sin 2\alpha''\,.\,\sin 2\odot$$
$$- 0''\cdot00004\,.\,\cot\delta''\,.\,\cos 2\odot$$

These expressions, however, cannot as they stand be computed with the same elements (α', δ') to which formulæ (29) and (30) are adapted, without further transformation; and the distinction is of some importance for stars near the Pole. If, however, in the principal terms we substitute for

$$\sin\alpha'' \ldots \sin\alpha' - (\alpha'' - \alpha')\sin 1''\,.\,\cos\alpha',$$
$$\cos\alpha'' \ldots \cos\alpha' + (\alpha'' - \alpha')\sin 1''\,.\,\sin\alpha',$$
$$\sin\delta'' \ldots \sin\delta' - (\delta'' - \delta')\sin 1''\,.\,\cos\delta',$$
$$\cos\delta'' \ldots \cos\delta' + (\delta'' - \delta')\sin 1''\,.\,\sin\delta',$$
$$\operatorname{cosec}\delta'' \ldots \operatorname{cosec}\delta' + (\delta'' - \delta')\sin 1''\,.\,\cot^2\delta';$$

where

$$\alpha'' - \alpha' = - (6''\cdot8670\,.\,\sin\alpha'\,.\,\sin\Omega + 9''\cdot2236\,.\,\cos\alpha'\,.\,\cos\Omega)\,.\,\cot\delta'$$
$$\delta'' - \delta' = + (6''\cdot8670\,.\,\cos\alpha'\,.\,\sin\Omega - 9''\cdot2236\,.\,\sin\alpha'\,.\,\cos\Omega),$$

and retain in R.A. only those additional terms which are multiplied by $\operatorname{cosec}\delta'\,.\,\cot\delta'$ ($= \cot^2\delta'$ in the only cases in which they are sensible,) and in N.P.D. those only which are multiplied by $\cos\delta'\,.\,\cot\delta'$ ($= \cot\delta'$), we shall then have

$$\alpha''' - \alpha'' = - 20''\cdot4451\,.\,\operatorname{cosec}\delta'\,.\,(\sin\alpha'\,.\,\sin\odot + \cos\alpha'\,.\,\cos\omega\,.\,\cos\odot)$$
$$+ 0''\cdot00093\,.\,\cos 2\alpha'\,.\,\sin 2\odot\,.\,\operatorname{cosec}^2\delta' \qquad (41)$$
$$- 0''\cdot00093\,.\,\sin 2\alpha'\,.\,\cos 2\odot\,.\,\operatorname{cosec}^2\delta'$$
$$+ 0''\cdot00077\,.\,\cos 2\alpha'\,.\,\sin(\odot + \Omega)\,.\,\cot^2\delta'$$
$$- 0''\cdot00076\,.\,\sin 2\alpha'\,.\,\cos(\odot + \Omega)\,.\,\cot^2\delta'$$
$$+ 0''\cdot00015\,.\,\cos 2\alpha'\,.\,\sin(\odot - \Omega)\,.\,\cot^2\delta'$$
$$- 0''\cdot00008\,.\,\sin 2\alpha'\,.\,\cos(\odot - \Omega)\,.\,\cot^2\delta'$$

$$\begin{aligned}\delta''' - \delta'' = &+ 20''{\cdot}4451 \,.\, \cos\delta' \,.\, (\cos\alpha' \,.\, \sin\odot - \sin\alpha' \,.\, \cos\omega \,.\, \cos\odot)\\ &+ 20''{\cdot}4451 \,.\, \sin\delta' \,.\, \sin\omega \,.\, \cos\odot\\ &+ 0''{\cdot}00047 \,.\, \cos 2\alpha' \,.\, \cos 2\odot \,.\, \cot\delta'\\ &+ 0''{\cdot}00046 \,.\, \sin 2\alpha' \,.\, \sin 2\odot \,.\, \cot\delta'\\ &- 0''{\cdot}00004 \,.\, \cos 2\odot \,.\, \cot\delta'\\ &+ 0''{\cdot}00038 \,.\, \cos 2\alpha' \,.\, \cos(\odot + \Omega) \,.\, \cot\delta'\\ &+ 0''{\cdot}00038 \,.\, \sin 2\alpha' \,.\, \sin(\odot + \Omega) \,.\, \cot\delta'\\ &+ 0''{\cdot}00004 \,.\, \cos 2\alpha' \,.\, \cos(\odot - \Omega) \,.\, \cot\delta'\\ &+ 0''{\cdot}00008 \,.\, \sin 2\alpha' \,.\, \sin(\odot - \Omega) \,.\, \cot\delta'\\ &+ 0''{\cdot}00004 \,.\, \cos(\odot + \Omega) \,.\, \cot\delta'\\ &+ 0''{\cdot}00008 \,.\, \cos(\odot - \Omega) \,.\, \cot\delta'\end{aligned} \tag{42}$$

12. Diurnal aberration in R.A. and N.P.D.

Substituting in (36) and (37) the third terms of (38), we find

$$\Delta\alpha = + k \,.\, \frac{d\mu}{dt} \,.\, \varrho \,.\, \cos\Phi \,.\, \cos(\alpha - \mu) \,.\, \operatorname{cosec}\delta$$

$$\Delta\delta = + k \,.\, \frac{d\mu}{dt} \,.\, \varrho \,.\, \cos\Phi \,.\, \sin(\alpha - \mu) \,.\, \cos\delta$$

If T be the number of mean solar days in a sidereal revolution of the earth

$$k \,.\, \frac{d\mu}{dt} = k \,.\, \frac{dm}{dt} \,.\, (\mathrm{T} + 1) = 20''{\cdot}4451 \times 366''{\cdot}25636.$$

Also if a be the Earth's equatorial semidiameter ($= 8{\cdot}5776 \,.\, \sin 1''$), ε the eccentricity of its meridian section, and L the astronomical latitude of the observatory,

$$\varrho \,.\, \cos\Phi = \frac{a \,.\, \cos \mathrm{L}}{\sqrt{1 - \varepsilon^2 \,.\, \sin^2 \mathrm{L}}}$$

Whence

$$\Delta\alpha = + 0''{\cdot}311 \,.\, \frac{\cos \mathrm{L}}{\sqrt{1 - \varepsilon^2 \,.\, \sin^2 \mathrm{L}}} \,.\, \cos(\alpha - \mu) \,.\, \operatorname{cosec}\delta \tag{43}$$

$$\Delta\delta = + 0''{\cdot}311 \,.\, \frac{\cos \mathrm{L}}{\sqrt{1 - \varepsilon^2 \,.\, \sin^2 \mathrm{L}}} \,.\, \sin(\alpha - \mu) \,.\, \cos\delta \tag{44}$$

where $(\alpha - \mu)$ is the east hour angle of the star, which on the meridian becomes zero; in which case $\cos(\alpha - \mu) = 1$, and $\Delta\delta = 0$.

13. Annual aberration in longitude and latitude.

Writing $\omega = 0$, l for α, and $90° - \lambda$ for δ in (41) and (42), we at once find, neglecting insensible terms,

$$\Delta l = - 20''{\cdot}4451 \,.\, \cos(\odot - l) \,.\, \sec\lambda + 0''{\cdot}00093 \,.\, \sin 2(\odot - l) \,.\, \sec^2\lambda \tag{45}$$

$$\Delta l = - 20''{\cdot}4451 \,.\, \sin(\odot - l) \,.\, \sin\lambda - 0''{\cdot}00047 \,.\, \cos 2(\odot - l) \,.\, \tan\lambda. \tag{46}$$

14. The formulæ for all three corrections in R.A. and N.P.D. assembled.

The small terms of formulæ (29) and (30), (31) and (32), (41) and (42), may be grouped thus:

R.A.

$\times \cos 2\alpha' \,.\, \cot^2\delta'$	$\times \sin 2\alpha' \,.\, \cot^2\delta'$
$+ 0''{\cdot}00015 \,.\, \sin 2\Omega$	$- 0''{\cdot}00016 \,.\, \cos 2\Omega$
	$- 0{\cdot}00098 \,.\, \tau^2$
$+ 0{\cdot}00093 \,.\, \sin 2\odot$	$- 0{\cdot}00093 \,.\, \cos 2\odot$
$+ 0{\cdot}00077 \,.\, \sin(\odot + \Omega)$	$- 0{\cdot}00076 \,.\, \cos(\odot + \Omega)$
$+ 0{\cdot}00015 \,.\, \sin(\odot - \Omega)$	$- 0{\cdot}00008 \,.\, \cos(\odot - \Omega)$

N.P.D.

$\times \sin 2\alpha' \,.\, \cot\delta'$	$\times \cos 2\alpha' \,.\, \cot\delta'$
$+ 0''{\cdot}00008 \,.\, \sin 2\Omega$	$+ 0''{\cdot}00008 \,.\, \cos 2\Omega$
	$+ 0{\cdot}00049 \,.\, \tau^2$
$+ 0{\cdot}00047 \,.\, \sin 2\odot$	$+ 0{\cdot}00047 \,.\, \cos 2\odot$
$+ 0{\cdot}00038 \,.\, \sin(\odot + \Omega)$	$+ 0{\cdot}00038 \,.\, \cos(\odot + \Omega)$
$+ 0{\cdot}00008 \,.\, \sin(\odot - \Omega)$	$+ 0{\cdot}00004 \,.\, \cos(\odot - \Omega)$

$+ \operatorname{cotan}\delta' \times$

$- 0''{\cdot}00049 \,.\, \tau^2$
$- 0{\cdot}00004 \,.\, \cos 2\odot$
$+ 0{\cdot}00004 \,.\, \cos(\odot + \Omega)$
$+ 0{\cdot}00038 \,.\, \cos(\odot - \Omega)$

whence if we assume

$$A = -p \cdot \sin P \cdot \cot \omega$$
$$B = -q \cdot \cos Q \cdot \tan \omega$$

$$p \cdot \sin(180^\circ - P) = +6''\cdot8670 \cdot \sin \Omega - 0''\cdot0822 \cdot \sin 2\Omega + 0''\cdot5054 \cdot \sin 2\odot - 20''\cdot0560 \cdot \tau$$

$$p \cdot \cos(180^\circ - P) = +9''\cdot2236 \cdot \cos \Omega - 0''\cdot0895 \cdot \cos 2\Omega + 0''\cdot5508 \cdot \cos 2\odot$$

$$q \cdot \sin(180^\circ - Q) = +20''\cdot4451 \cdot \sin \odot$$

$$q \cdot \cos(180^\circ - Q) = +20''\cdot4451 \cdot \cos \odot \cdot \cos \omega$$

$$r \cdot \sin(90^\circ - 2R) = +0''\cdot00015 \cdot \sin 2\Omega + 0''\cdot00093 \cdot \sin 2\odot + 0''\cdot00077 \cdot \sin(\odot + \Omega) + 0''\cdot00015 \cdot \sin(\odot - \Omega)$$

$$r \cdot \cos(90^\circ - 2R) = +0''\cdot00016 \cdot \cos 2\Omega + 0''\cdot00093 \cdot \cos 2\odot + 0''\cdot00076 \cdot \cos(\odot + \Omega) + 0''\cdot00098 \cdot \tau^2 + 0''\cdot00008 \cdot \cos(\odot - \Omega)$$

$$s = -0''\cdot00049 \cdot \tau^2 - 0''\cdot00004 \cdot \cos 2\odot + 0''\cdot00004 \cdot \cos(\odot + \Omega) + 0''\cdot00038 \cdot \cos(\odot - \Omega)$$

we shall have, with more than the degree of accuracy required in practice, to terms of the second order,

$$\alpha''' - \alpha = A + p \cdot \cot \delta' \cdot \cos(P + \alpha') + q \cdot \operatorname{cosec} \delta' \cdot \cos(Q + \alpha') + 0''\cdot0850 \cdot \cot \delta' \cdot \cos(180^\circ - 2\mathbb{C} - \alpha') + r \cdot \cot^2 \delta' \cdot \cos 2(R + \alpha') \quad (47)$$

$$\delta''' - \delta = B \cdot \sin \delta' + p \cdot \sin(P + \alpha') + q \cdot \cos \delta' \cdot \sin(Q + \alpha') + 0''\cdot0850 \cdot \sin(180^\circ - 2\mathbb{C} - \alpha') + \tfrac{1}{2} r \cdot \cot \delta' \cdot \sin 2(R + \alpha') + s \cdot \cot \delta' \quad (48)$$

as the formulæ for deducing the apparent position of a star in R.A. and N.P.D. from its mean place at an epoch not much more than a twelvemonth distant, the terms following those of the first line in each expression becoming sensible only within four degrees of the Pole.

Table of corresponding Logarithms,

to facilitate the Computation of Precession in R.A.

Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.	Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.	Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.
6·10	0·00005	2	9·99995	2	8·004	0·00441	4	9·99564	4	8·324	0·00926	8	9·99094	8
·20	·00007	2	·99993	2	·008	·00445	4	·99560	4	·328	·00934	9	·99086	9
·30	·00009	2	·99991	2	·012	·00449	4	·99556	4	·332	·00943	9	·99077	8
·40	·00011	3	·99989	3	·016	·00453	4	·99552	4	·336	·00952	9	·99069	9
·50	·00014	3	·99986	3	8·020	0·00457	4	9·99548	4	8·340	0·00961	9	9·99060	9
·60	·00017	5	·99983	5	·024	·00461	5	·99544	5	·344	·00970	9	·99051	9
·70	·00022	5	·99978	5	·028	·00466	4	·99539	4	·348	·00979	9	·99042	9
·80	·00027	7	·99973	7	·032	·00470	4	·99535	4	·352	·00988	9	·99034	8
·90	·00034	9	·99966	9	·036	·00474	5	·99531	5	·356	·00997	9	·99025	9
7·00	0·00043	2	9·99957	2	8·040	0·00479	4	9·99526	4	8·360	0·01007	10	9·99016	9
·02	·00045	2	·99955	2	·044	·00483	5	·99522	4	·364	·01016	9	·99007	9
·04	·00047	2	·99953	2	·048	·00488	4	·99518	5	·368	·01025	9	·98998	9
·06	·00049	2	·99951	2	·052	·00492	5	·99513	4	·372	·01035	10	·98989	9
·08	·00051	3	·99949	3	·056	·00497	5	·99509	5	·376	·01045	10	·98980	9
7·10	0·00054	2	9·99946	2	8·060	0·00502	4	9·99504	4	8·380	0·01055	10	9·98970	10
·12	·00056	3	·99944	3	·064	·00506	5	·99500	5	·384	·01065	10	·98961	9
·14	·00059	3	·99941	3	·068	·00511	5	·99495	5	·388	·01075	10	·98952	9
·16	·00062	3	·99938	3	·072	·00516	5	·99490	5	·392	·01085	10	·98942	10
·18	·00065	4	·99935	4	·076	·00521	4	·99486	4	·396	·01095	10	·98932	10
7·20	0·00069	3	9·99931	3	8·080	0·00525	5	9·99481	5	8·400	0·01105	10	9·98923	9
·22	·00072	3	·99928	3	·084	·00530	5	·99476	5	·404	·01115	11	·98913	10
·24	·00075	4	·99925	4	·088	·00535	5	·99471	5	·408	·01126	10	·98903	10
·26	·00079	4	·99921	4	·092	·00540	5	·99467	4	·412	·01136	11	·98893	10
·28	·00083	4	·99917	4	·096	·00545	5	·99462	5	·416	·01147	10	·98883	11
7·30	0·00087	4	9·99913	4	8·100	0·00550	5	9·99457	5	8·420	0·01157	11	9·98872	10
·32	·00091	4	·99909	4	·104	·00555	5	·99452	5	·424	·01168	11	·98862	10
·34	·00095	5	·99905	5	·108	·00560	6	·99447	5	·428	·01179	12	·98852	11
·36	·00100	4	·99900	4	·112	·00566	5	·99442	6	·432	·01191	11	·98841	10
·38	·00104	5	·99896	5	·116	·00571	5	·99436	5	·436	·01202	11	·98831	11
7·40	0·00109	4	9·99891	4	8·120	0·00576	6	9·99431	5	8·440	0·01213	11	9·98820	11
·42	·00113	6	·99887	6	·124	·00582	5	·99426	5	·444	·01224	12	·98809	11
·44	·00119	6	·99881	6	·128	·00587	6	·99421	6	·448	·01236	11	·98798	11
·46	·00125	6	·99875	6	·132	·00593	5	·99415	5	·452	·01247	12	·98787	11
·48	·00131	6	·99869	6	·136	·00598	6	·99410	5	·456	·01259	12	·98776	11
7·50	0·00137	7	9·99863	7	8·140	0·00604	5	9·99405	6	8·460	0·01271	12	9·98765	11
·52	·00144	7	·99856	7	·144	·00609	6	·99399	5	·464	·01283	12	·98754	11
·54	·00151	7	·99849	7	·148	·00615	6	·99394	6	·468	·01295	12	·98743	12
·56	·00158	7	·99842	7	·152	·00621	6	·99388	6	·472	·01307	12	·98731	12
·58	·00165	8	·99835	8	·156	·00627	5	·99382	6	·476	·51319	13	·98719	11
7·60	0·00173	4	9·99827	4	8·160	0·00632	6	9·99377	6	8·480	0·01332	12	9·98708	12
·61	·00177	4	·99823	4	·164	·00638	6	·99371	6	·484	·01344	13	·98696	12
·62	·00181	4	·99819	4	·168	·00644	6	·99365	6	·488	·01357	13	·98684	12
·63	·00185	5	·99815	5	·172	·00650	6	·99359	6	·492	·01370	13	·98672	12
·64	·00190	5	·99810	5	·176	·00656	6	·99354	5	·496	·01383	13	·98660	12
·65	·00195	5	·99806	4	8·180	0·00662	6	9·99348	6	8·500	0·01396	13	9·98648	12
·66	·00200	4	·99801	5	·184	·00668	7	·99342	6	·504	·01409	13	·98636	13
·67	·00204	5	·99797	4	·188	·00675	6	·99336	6	·508	·01422	13	·98623	12
·68	·00209	4	·99792	5	·192	·00681	6	·99330	7	·512	·01435	14	·98611	13
·69	·00213	5	·99788	4	·196	·00687	7	·99323	6	·516	·01449	13	·98598	13
7·70	0·00218	5	9·99783	5	8·200	0·00694	6	9·99317	6	8·520	0·01462	14	9·98585	13
·71	·00223	5	·99778	5	·204	·00700	7	·99311	6	·524	·01476	14	·98572	13
·72	·00228	6	·99773	5	·208	·00707	6	·99305	7	·528	·01490	14	·98559	13
·73	·00234	5	·99767	6	·212	·00713	7	·99298	6	·532	·01504	14	·98546	13
·74	·00239	6	·99762	5	·216	·00720	7	·99292	7	·536	·01518	14	·98533	13
·75	·00245	5	·99756	6	8·220	0·00727	7	9·99285	6	8·540	0·01533	15	9·98520	14
·76	·00250	6	·99751	6	·224	·00734	6	·99279	7	·544	·01547	14	·98506	13
·77	·00256	6	·99745	6	·228	·00740	7	·99272	7	·548	·01562	15	·98493	14
·78	·00262	6	·99739	6	·232	·00747	7	·99265	6	·552	·01576	14	·98479	14
·79	·00268	6	·99733	6	·236	·00754	7	·99259	7	·556	·01591	15	·98465	14
7·80	0·00274	6	9·99727	5	8·240	0·00761	7	9·99252	7	8·560	0·01606	15	9·98451	14
·81	·00280	6	·99722	6	·244	·00768	8	·99245	7	·564	·01621	16	·98437	14
·82	·00286	6	·99716	6	·248	·00776	7	·99238	7	·568	·01637	15	·98423	14
·83	·00292	7	·99710	7	·252	·00783	7	·99231	7	·572	·01652	16	·98409	15
·84	·00299	7	·99703	7	·256	·00790	8	·99224	7	·576	·01668	15	·98394	14
·85	·00306	8	·99696	8	8·260	0·00798	7	9·99217	7	8·580	0·01683	16	9·98380	15
·86	·00314	7	·99688	7	·264	·00805	8	·99210	8	·584	·01699	16	·98365	15
·87	·00321	8	·99681	8	·268	·00813	7	·99202	7	·588	·01715	17	·98350	15
·88	·00329	8	·99673	8	·272	·00820	8	·99195	7	·592	·01732	16	·98335	15
·89	·00338	8	·99665	8	·276	·00828	8	·99188	8	·596	·01748	16	·98320	15
7·90	0·00346	8	9·99657	8	8·280	0·00836	7	9·99180	7	8·600	0·01764	17	9·98305	16
·91	·00354	8	·99649	8	·284	·00843	8	·99173	8	·604	·01781	17	·98289	15
·92	·00362	9	·99641	9	·288	·00851	8	·99165	7	·608	·01798	17	·98274	16
·93	·00371	9	·99632	9	·292	·00859	8	·99158	8	·612	·01815	17	·98258	16
·94	·00380	9	·99623	9	·296	·00867	8	·99150	8	·616	·01832	17	·98242	16
·95	·00389	9	·99614	9	8·300	0·00875	9	9·99142	8	8·620	0·01849	18	9·98226	16
·96	·00399	10	·99605	9	·304	·00884	8	·99134	8	·624	·01867	18	·98210	16
·97	·00408	9	·99596	9	·308	·00892	8	·99126	8	·628	·01884	17	·98194	16
·98	·00417	9	·99587	9	·312	·00900	9	·99118	8	·632	·01902	18	·98178	16
·99	·00426	9	·99578	9	·316	·00909	8	·99110	8	·636	·01920	18	·98161	17
8·00	0·00436	10	9·99568	10	8·320	0·00917		9·99102		8·640	0·01938		9·98145	16

Corresponding Logarithms.

Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.	Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.	Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.
8·641	0·01943	5	9·98140	4	8·731	0·02403	6	9·97723	5	8·821	0·02976	7	9·97215	6
·642	·01948	4	·98136	4	·732	·02409	5	·97718	5	·822	·02983	7	·97209	6
·643	·01952	5	·98132	4	·733	·02414	6	·97713	5	·823	·02990	7	·97203	6
·644	·01957	4	·98128	5	·734	·02420	6	·97708	5	·824	·02997	7	·97197	7
·645	·01961	5	·98123	4	·735	·02426	6	·97703	6	·825	·03004	7	·97190	6
·646	·01966	5	·98119	4	·736	·02432	5	·97697	5	·826	·03011	8	·97184	6
·647	·01971	4	·98115	4	·737	·02437	6	·97692	5	·827	·03019	7	·97178	7
·648	·01975	5	·98111	4	·738	·02443	6	·97687	5	·828	·03026	7	·97171	6
·649	·01980	5	·98106	5	·739	·02449	6	·97682	5	·829	·03033	7	·97165	6
8·650	0·01985	4	9·98102	4	8·740	0·02455	6	9·97677	6	8·830	0·03040	7	9·97159	7
·651	·01989	4	·98098	4	·741	·02461	5	·97671	5	·831	·03047	8	·97152	6
·652	·01994	5	·98094	5	·742	·02466	6	·97666	5	·832	·03055	7	·97146	6
·653	·01999	5	·98089	4	·743	·02472	6	·97661	5	·833	·03062	7	·97140	7
·654	·02003	4	·98085	4	·744	·02478	6	·97656	6	·834	·03069	8	·97133	6
·655	·02008	5	·98081	4	·745	·02484	6	·97650	5	·835	·03077	7	·97127	6
·656	·02013	5	·98076	5	·746	·02490	6	·97645	5	·836	·03084	7	·97121	7
·657	·02018	4	·98072	4	·747	·02496	6	·97640	5	·837	·03091	8	·97114	6
·658	·02022	4	·98068	4	·748	·02502	6	·97635	6	·838	·03099	7	·97108	7
·659	·02027	5	·98063	5	·749	·02508	6	·97629	5	·839	·03106	8	·97101	6
8·660	0·02032	5	9·98059	4	8·750	0·02514	6	9·97624	5	8·840	0·03114	7	9·97095	7
·661	·02037	5	·98055	4	·751	·02520	6	·97619	6	·841	·03121	8	·97088	6
·662	·02042	4	·98050	5	·752	·02526	6	·97613	5	·842	·03129	7	·97082	7
·663	·02046	5	·98046	4	·753	·02532	6	·97608	5	·843	·03136	7	·97075	6
·664	·02051	5	·98041	5	·754	·02538	6	·97603	6	·844	·03143	8	·97069	7
·665	·02056	5	·98037	4	·755	·02544	6	·97597	5	·845	·03151	8	·97062	6
·666	·02061	5	·98033	4	·756	·02550	6	·97592	6	·846	·03159	7	·97056	7
·667	·02066	5	·98028	5	·757	·02556	6	·97586	5	·847	·03166	8	·97049	6
·668	·02071	5	·98024	4	·758	·02562	6	·97581	5	·848	·03174	7	·97043	7
·669	·02076	4	·98019	5	·759	·02568	6	·97576	6	·849	·03181	8	·97036	7
8·670	0·02080	5	9·98015	4	8·760	0·02574	6	9·97570	5	8·850	0·03189	8	9·97029	6
·671	·02085	5	·98010	5	·761	·02580	6	·97565	6	·851	·03197	7	·97023	7
·672	·02090	5	·98006	4	·762	·02586	6	·97559	5	·852	·03204	8	·97016	6
·673	·02095	5	·98001	5	·763	·02592	6	·97554	6	·853	·03212	8	·97010	7
·674	·02100	5	·97997	4	·764	·02598	7	·97548	5	·854	·03220	7	·97003	7
·675	·02105	5	·97992	4	·765	·02605	6	·97543	6	·855	·03227	8	·96996	7
·676	·02110	5	·97988	5	·766	·02611	6	·97537	5	·856	·03235	8	·96989	6
·677	·02115	5	·97983	4	·767	·02617	6	·97532	6	·857	·03243	7	·96983	7
·678	·02120	5	·97979	5	·768	·02623	6	·97526	5	·858	·03250	8	·96976	7
·679	·02125	5	·97974	4	·769	·02629	7	·97521	6	·859	·03258	8	·96969	6
8·680	0·02130	5	9·97970	5	8·770	0·02636	6	9·97515	5	8·860	0·03266	8	9·96963	7
·681	·02135	5	·97965	5	·771	·02642	6	·97510	6	·861	·03274	8	·96956	7
·682	·02140	5	·97960	4	·772	·02648	7	·97504	6	·862	·03282	8	·96949	7
·683	·02145	5	·97956	5	·773	·02655	6	·97498	5	·863	·03289	7	·96942	7
·684	·02150	5	·97951	4	·774	·02661	6	·97493	6	·864	·03297	8	·96935	7
·685	·02155	6	·97947	5	·775	·02667	7	·97487	5	·865	·03305	8	·96929	6
·686	·02161	5	·97942	5	·776	·02674	6	·97482	6	·866	·03313	8	·96922	7
·687	·02166	5	·97937	4	·777	·02680	6	·97476	6	·867	·03321	8	·96915	7
·688	·02171	5	·97933	5	·778	·02686	7	·97470	5	·868	·03329	8	·96908	7
·689	·02176	5	·97928	5	·779	·02693	6	·97465	6	·869	·03337	8	·96901	7
8·690	0·02181	5	9·97923	4	8·780	0·02699	6	9·97459	6	8·870	0·03345	8	9·96894	7
·691	·02186	5	·97919	5	·781	·02705	7	·97453	5	·871	·03353	8	·96887	7
·692	·02191	6	·97914	5	·782	·02712	6	·97448	6	·872	·03361	8	·96880	7
·693	·02197	5	·97909	4	·783	·02718	7	·97442	6	·873	·03369	8	·96874	6
·694	·02202	5	·97905	5	·784	·02725	6	·97436	6	·874	·03377	8	·96867	7
·695	·02207	5	·97900	5	·785	·02731	7	·97430	5	·875	·03385	8	·96860	7
·696	·02212	5	·97895	4	·786	·02738	6	·97425	6	·876	·03393	8	·96853	7
·697	·02217	6	·97891	5	·787	·02744	7	·97419	6	·877	·03402	9	·96846	7
·698	·02223	5	·97886	5	·788	·02751	6	·97413	6	·878	·03410	8	·96839	7
·699	·02228	5	·97881	5	·789	·02757	7	·97407	6	·879	·03418	8	·96832	7
8·700	0·02233	5	9·97876	5	8·790	0·02764	7	9·97401	5	8·880	0·03426	8	9·96825	7
·701	·02238	6	·97871	4	·791	·02771	6	·97396	6	·881	·03434	8	·96818	8
·702	·02244	5	·97867	5	·792	·02777	7	·97390	6	·882	·03443	9	·96810	7
·703	·02249	5	·97862	5	·793	·02784	6	·97384	6	·883	·03451	8	·96803	7
·704	·02254	6	·97857	5	·794	·02790	7	·97378	6	·884	·03459	8	·96796	7
·705	·02260	5	·97852	5	·795	·02797	7	·97372	6	·885	·03467	8	·96789	7
·706	·02265	5	·97847	4	·796	·02804	6	·97366	5	·886	·03476	9	·96782	7
·707	·02270	6	·67843	5	·797	·02810	7	·97361	6	·887	·03484	8	·96775	7
·708	·02276	5	·97838	5	·798	·02817	7	·97355	6	·888	·03493	9	·96768	8
·709	·02281	6	·97833	5	·799	·02824	6	·97349	6	·889	·03501	8	·96760	7
8·710	0·02287	5	9·97828	5	8·800	0·02830	7	9·97343	6	8·890	0·03509	8	9·96753	7
·711	·02292	5	·97823	5	·801	·02837	7	·97337	6	·891	·03518	9	·96746	7
·712	·02297	6	·97818	5	·802	·02844	7	·97331	6	·892	·03526	8	·96739	7
·713	·02303	5	·97813	5	·803	·02851	7	·97325	6	·893	·03535	9	·96732	8
·714	·02308	6	·97808	5	·804	·02858	7	·97319	6	·894	·03543	8	·96724	7
·715	·02314	5	·97803	5	·805	·02864	7	·97313	6	·895	·03552	9	·96717	7
·716	·02319	6	·97798	5	·806	·02871	7	·97307	6	·896	·03560	8	·96710	8
·717	·02325	5	·97793	4	·807	·02878	7	·97301	6	·897	·03569	9	·96702	7
·718	·02330	6	·97789	5	·808	·02885	7	·97295	6	·898	·03577	8	·96695	7
·719	·02336	5	·97784	5	·809	·02892	7	·97289	6	·899	·03586	9	·96688	8
8·720	0·02341	6	9·97779	5	8·810	0·02899	7	9·97283	6	8·900	0·03594	9	9·96680	7
·721	·02347	5	·97774	5	·811	·02906	7	·97277	6	·901	·03603	9	·96673	7
·722	·02352	6	·97769	5	·812	·02913	7	·97271	6	·902	·03612	9	·96666	8
·723	·02358	5	·97764	5	·813	·02920	6	·97265	7	·903	·03620	8	·96658	7
·724	·02363	6	·97759	5	·814	·02926	7	·97258	6	·904	·03629	9	·96651	7
·725	·02369	6	·97754	6	·815	·02933	7	·97252	6	·905	·03638	9	·96644	8
·726	·02375	5	·97748	5	·816	·02940	7	·97246	6	·906	·03647	9	·96636	7
·727	·02380	6	·97743	5	·817	·02947	8	·97240	6	·907	·03655	9	·96629	8
·728	·02386	6	·97738	5	·818	·02955	7	·97234	6	·908	·03664	9	·96621	7
·729	·02392	5	·97733	5	·819	·02962	7	·97228	6	·909	·03673	9	·96614	8
8·730	0·02397		9·97728		8·820	0·02969		9·97222		8·910	0·03682		9·96606	

Corresponding Logarithms.

Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.	Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.	Log n.	Log $\frac{1}{1-n}$	D.	Log $\frac{1}{1+n}$	D.
8·911	0·03691	9	9·96599	8	8·991	0·04477	11	9·95942	9	9·071	0·05441	14	9·95165	10
·912	·03700	9	·96591	7	·992	·04488	11	·95933	9	·072	·05455	13	·95155	11
·913	·03709	8	·96584	8	·993	·04499	11	·95924	9	·073	·05468	14	·95144	11
·914	·03717	9	·96576	8	·994	·04510	11	·95915	9	·074	·05482	13	·95133	10
·915	·03726	9	·96568	7	·995	·04521	11	·95906	9	·075	·05495	14	·95123	11
·916	·03735	9	·96561	8	·996	·04532	11	·95897	9	·076	·05509	13	·95112	10
·917	·03744	9	·96553	8	·997	.04543	11	·95888	9	·077	·05522	14	·95102	11
·918	·03753	9	·96545	7	·998	·04554	11	·95879	9	·078	·05536	13	·95091	11
·919	·03762	9	·96538	8	·999	·04565	11	·95870	9	·079	·05549	14	·95080	11
8·920	0·03771	10	9·96530	8	9·000	0·04576	11	9·95861	9	9·080	0·05563	14	9·95069	11
·921	·03781	9	·96522	7	·001	·04587	11	·95852	9	·081	·05577	13	·95059	10
·922	·03790	9	·96515	8	·002	·04598	11	·95843	9	·082	·05590	14	·95048	11
·923	·03799	9	·96507	8	·003	·04609	11	·95833	10	·083	·05604	14	·95037	11
·924	·03808	9	·96499	7	·004	·04620	12	·95824	9	·084	·05618	14	·95026	11
·925	·03817	9	·96492	8	·005	·04632	11	·95815	9	·085	·05632	14	·95016	10
·926	·03826	9	·96484	8	·006	·04643	11	·95806	9	·086	·05646	14	·95005	11
·927	·03836	10	·96476	8	·007	·04654	12	·95797	9	·087	·05660	14	·94994	11
·928	·03845	9	·96468	8	·008	·04666	11	·95787	10	·088	·05673	13	·94983	11
·929	·03854	9	·96460	7	·009	·04677	11	·95778	9	·089	·05687	14	·94972	11
8·930	0·03863	9	9·96453	8	9·010	0·04688	12	9·95769	9	9·090	0·05701	14	9·94961	11
·931	·03873	10	·96445	8	·011	·04700	11	·95760	9	·091	·05715	15	·94950	11
·932	·03882	9	·96437	8	·012	·04711	12	·95750	10	·092	·05730	14	·94939	11
·933	·03891	9	·96429	8	·013	·04723	11	·95741	9	·093	·05744	14	·94928	11
·934	·03901	10	·96421	8	·014	·04734	12	·95732	9	·094	·05758	14	·94917	11
·935	·03910	9	·96413	8	·015	·04746	11	·95722	10	·095	·05772	14	·94906	11
·936	·03920	10	·96405	8	·016	·04757	12	·95713	9	·096	·05786	15	·94895	11
·937	·03929	9	·96397	8	·017	·04769	11	·95703	10	·097	·05801	14	·94884	11
·938	·03939	10	·96389	8	·018	·04780	12	·95694	9	·098	·05815	14	·94873	11
·939	·03948	9	·96381	8	·019	·04792	12	·95684	10	·099	·05829	15	·94862	11
8·940	0·03958	10	9·96373	8	9·020	0·04804	12	9·95675	9	9·100	0·05844	14	9·94850	12
·941	·03967	9	·96365	8	·021	·04816	11	·95666	9	·101	·05858	14	·94839	11
·942	·03977	10	·96357	8	·022	·04827	12	·95656	10	·102	·05872	15	·94828	11
·943	·03986	9	·96349	8	·023	·04839	12	·95647	9	·103	·05887	14	·94817	11
·944	·03996	10	·96341	8	·024	·04851	12	·95637	10	·104	·05901	15	·94805	12
·945	·04006	10	·96333	8	·025	·04863	12	·95627	10	·105	·05916	15	·94794	11
·946	·04015	9	·96325	8	·026	·04875	11	·95618	9	·106	·05931	14	·94783	11
·947	·04025	10	·96317	8	·027	·04886	12	·95608	10	·107	·05945	15	·94772	11
·948	·04035	10	·96309	9	·028	·04898	12	·95599	9	·108	·05960	15	·94760	12
·949	·04044	9	·96300	8	·029	·04910	12	·95589	10	·109	·05975	15	·94749	11
8·950	0·04054	10	9·96292	8	9·030	0·04922	12	9·95579	10	9·110	0·05990	14	9·94737	12
·951	·04064	10	·96284	8	·031	·04934	12	·95570	9	·111	·06004	15	·94726	11
·952	·04074	10	·96276	8	·032	·04946	12	·95560	10	·112	·06019	15	·94715	11
·953	·04084	10	·96268	9	·033	·04958	13	·95550	10	·113	·06034	15	·94703	12
·954	·04094	9	·96259	8	·034	.04971	12	·95541	9	·114	·06049	15	·94692	11
·955	·04103	10	·96251	8	·035	·04983	12	·95531	10	·115	·06064	15	·94680	12
·956	·04113	10	·96243	8	·036	·04995	12	·95521	10	·116	·06079	15	·94668	12
·957	·04123	10	·96235	9	·037	·05007	12	·95511	10	·117	·06094	15	·94657	11
·958	·04133	10	·96226	8	·038	·05019	13	·95501	10	·118	·06109	15	·94645	12
·959	·04143	10	·96218	8	·039	·05032	12	·95491	10	·119	·06124	15	·94634	11
8·960	0·04153	10	9·96210	9	9·040	0·05044	12	9·95482	9	9·120	0·06139	16	9·94622	12
·961	·04163	10	·96201	8	·041	·05056	13	·95472	10	·121	·06155	15	·94610	12
·962	·04173	11	·96193	9	·042	·05069	12	·95462	10	·122	·06170	15	·94599	11
·963	·04184	10	·96184	8	·043	·05081	12	·95452	10	·123	·06185	15	·94587	12
·964	·04194	10	·96176	8	·044	·05093	13	·95442	10	·124	·06200	16	·94575	12
·965	·04204	10	·96168	9	·045	·05106	12	·95432	10	·125	·06216	15	·94564	11
·966	·04214	10	·96159	8	·046	·05118	13	·95422	10	·126	·06231	16	·94552	12
·967	·04224	10	·96151	9	·047	·05131	12	·95412	10	·127	·06247	15	·94540	12
·968	·04234	11	·96142	8	·048	·05143	13	·95402	10	·128	·06262	16	·94528	12
·969	·04245	10	·96134	9	·049	·05156	13	·95392	10	·129	·06278	15	·94516	12
8·970	0·04255	10	9·96125	8	9·050	0·05169	12	9·95382	10	9·130	0·06293	16	9·94504	11
·971	·04265	11	·96117	9	·051	·05181	13	·95372	11	·131	·06309	16	·94493	12
·972	·04276	10	·96108	9	·052	·05194	13	·95361	10	·132	·06325	15	·94481	12
·973	·04286	10	·96099	8	·053	·05207	12	·95351	10	·133	·06340	16	·94469	12
·974	·04296	11	·96091	9	·054	·05219	13	·95341	10	·134	·06356	16	·94457	12
·975	·04307	10	·96082	8	·055	·05232	13	·95331	10	·135	·06372	16	·94445	12
·976	·04317	11	·96074	9	·056	·05245	13	·95321	10	·136	·06388	16	·94433	12
·977	·04328	10	·96065	9	·057	·05258	13	·95311	11	·137	·06403	15	·94421	12
·978	·04338	11	·96056	8	·058	·05271	13	·95300	10	·138	·06419	16	·94409	13
·979	·04349	10	·96048	9	·059	·05284	13	·95290	10	·139	·06435	16	·94396	12
8·980	0·04359	11	9·96039	9	9·060	0·05297	13	9·95280	11	9·140	0·06451	16	9·94384	12
·981	·04370	10	·96030	9	·061	·05310	13	·95269	10	·141	·06467	16	·94372	12
·982	·04380	11	·96021	8	·062	·05323	13	·95259	10	·142	·06483	17	·94360	12
·983	·04391	11	·96013	9	·063	·05336	13	·95249	11	·143	·06500	16	·94348	12
·984	·04402	10	·96004	9	·064	·05349	13	·95238	10	·144	·06516	16	·94336	13
·985	·04412	11	·95995	9	·065	·05362	13	·95228	10	·145	·06532	16	·94323	12
·986	·04423	11	·95986	9	·066	·05375	13	·95218	11	·146	·06548	16	·94311	12
·987	·04434	10	·95977	9	·067	·05388	14	·95207	10	·147	·06564	17	·94299	12
·988	·04444	11	·95968	8	·068	·05402	13	·95197	11	·148	·06581	16	·94287	13
·989	·04455	11	·95960	9	·069	·05415	13	·95186	10	·149	·06597	17	·94274	12
8·990	0·04466		9·95951		9·070	0·05428		9·95176		9·150	0·06614		9·94262	

A Table of the Nutation-terms depending on 2 ☾,

in R.A. ... $+\frac{1}{15}$ cotan δ'. $0^{s}\cdot085$. cos $(180^\circ - 2(\mathbb{C} + \alpha')$;

in N.P.D. ... $+0''\cdot085$. sin $(180^\circ - 2(\mathbb{C} + \alpha')$.

Arg.	0°. 45′	0°. 50′	0°. 55′	1°. 0′	1°. 10′	1°. 20′	1°. 40′	2°. 0′	3°. 0′	5°. 0′	9°. 0′	N.P.D.	Arg.
°	s	s	s	s	s	s	s	s	s	s	s	″	°
0	+·432	+·390	+·354	+·325	+·278	+·243	+·195	+·162	+·108	+·065	+·036	+0·00	180
4	·430	·389	·353	·324	·277	·243	·195	·162	·108	·065	·036	·01	184
8	·426	·386	·350	·321	·275	·241	·193	·160	·107	·064	·035	·01	188
12	·421	·382	·346	·317	·272	·238	·191	·158	·105	·063	·035	·02	192
16	·415	·376	·340	·312	·268	·234	·188	·156	·104	·062	·034	·02	196
20	·405	·367	·333	·305	·262	·228	·183	·152	·101	·061	·033	·03	200
24	·395	·357	·323	·297	·254	·223	·178	·148	·098	·059	·032	·03	204
28	·381	·345	·313	·287	·245	·215	·172	·143	·095	·057	·031	·04	208
32	·366	·331	·300	·276	·236	·207	·166	·137	·091	·055	·030	·04	212
36	·349	·316	·287	·263	·225	·197	·158	·131	·087	·052	·029	·05	216
40	·330	·299	·272	·248	·213	·187	·150	·124	·082	·049	·027	·05	220
44	·310	·281	·255	·233	·200	·176	·140	·117	·077	·046	·026	·06	224
48	·289	·262	·237	·217	·186	·163	·130	·108	·072	·043	·024	·06	228
52	·265	·240	·218	·200	·171	·150	·120	·099	·066	·040	·022	·07	232
56	·240	·218	·198	·182	·156	·136	·109	·090	·060	·036	·020	·07	236
60	·215	·195	·177	·162	·139	·122	·097	·081	·054	·032	·018	·07	240
64	·189	·171	·156	·143	·122	·107	·085	·071	·047	·028	·016	·08	244
68	·162	·147	·133	·122	·114	·091	·073	·061	·040	·024	·013	·08	248
72	·133	·121	·110	·100	·086	·075	·060	·050	·033	·020	·011	·08	252
76	·105	·095	·086	·079	·067	·059	·047	·039	·026	·016	·009	·08	256
80	·075	·068	·062	·057	·048	·043	·034	·028	·019	·011	·006	·08	260
84	·045	·041	·037	·034	·029	·026	·021	·017	·011	·007	·004	·08	264
88	+·015	+·014	+·012	+·011	+·010	+·008	+·007	+·006	+·004	+·002	+·001	·08	268
92	−·015	−·014	−·012	−·011	−·010	−·008	−·007	−·006	−·004	−·002	−·001	·08	272
96	·045	·041	·037	·034	·029	·026	·021	·017	·011	·007	·004	·08	276
100	·075	·068	·062	·057	·048	·043	·034	·028	·019	·011	·006	·08	280
104	·105	·095	·086	·079	·067	·059	·047	·039	·026	·016	·009	·08	284
108	·133	·121	·110	·100	·086	·075	·060	·050	·033	·020	·011	·08	288
112	·162	·147	·133	·122	·114	·091	·073	·061	·040	·024	·013	·08	292
116	·189	·171	·156	·143	·122	·107	·085	·071	·047	·028	·016	·08	296
120	·215	·195	·177	·162	·139	·122	·097	·081	·054	·032	·018	·07	300
124	·240	·218	·198	·182	·156	·136	·109	·090	·060	·036	·020	·07	304
128	·265	·240	·218	·200	·171	·150	·120	·099	·066	·040	·022	·07	308
132	·289	·262	·237	·217	·186	·163	·130	·108	·072	·043	·024	·06	312
136	·310	·281	·255	·233	·200	·176	·140	·117	·077	·046	·026	·06	316
140	·330	·299	·272	·248	·213	·187	·150	·124	·082	·049	·027	·05	320
144	·349	·316	·287	·263	·225	·197	·158	·131	·087	·052	·029	·05	324
148	·366	·331	·300	·276	·236	·207	·166	·137	·091	·055	·030	·04	328
152	·381	·345	·313	·287	·245	·215	·172	·143	·095	·057	·031	·04	332
156	·395	·357	·323	·297	·254	·223	·178	·148	·098	·059	·032	·03	336
160	·405	·367	·333	·305	·262	·228	·183	·152	·101	·061	·033	·03	340
164	·415	·376	·340	·312	·268	·234	·188	·156	·104	·062	·034	·02	344
168	·421	·382	·346	·317	·272	·238	·191	·158	·105	·063	·035	·02	348
172	·426	·386	·350	·321	·275	·241	·193	·160	·107	·064	·035	·01	352
176	·430	·389	·353	·324	·277	·243	·195	·162	·108	·065	·036	·01	356
180	−·432	−·390	−·354	−·325	−·278	−·243	−·195	−·162	−·108	−·065	−·036	+0·00	360

Note.—When the Argument is on the right-hand side of the Table, the sign of the correction must be changed.

Table of Equivalents of Arc and Time.

Arc.	Time.	Arc.	Time.	Arc.	Time.	Arc.	Time.	Arc.	Time.	Arc.	Time.	Arc.	Time.	Arc.	Time.
°	h m	°	h m	°	h m	°	h m	°	h m	°	h m	′	m s	″	s
1	0. 4	61	4. 4	121	8. 4	181	12. 4	241	16. 4	301	20. 4	1	0. 4	1	0·067
2	0. 8	62	4. 8	122	8. 8	182	12. 8	242	16. 8	302	20. 8	2	0. 8	2	0·133
3	0. 12	63	4. 12	123	8. 12	183	12. 12	243	16. 12	303	20. 12	3	0. 12	3	0·200
4	0. 16	64	4. 16	124	8. 16	184	12. 16	244	16. 16	304	20. 16	4	0. 16	4	0·267
5	0. 20	65	4. 20	125	8. 20	185	12. 20	245	16. 20	305	20. 20	5	0. 20	5	0·333
6	0. 24	66	4. 24	126	8. 24	186	12. 24	246	16. 24	306	20. 24	6	0. 24	6	0·400
7	0. 28	67	4. 28	127	8. 28	187	12. 28	247	16. 28	307	20. 28	7	0. 28	7	0·467
8	0. 32	68	4. 32	128	8. 32	188	12. 32	248	16. 32	308	20. 32	8	0. 32	8	0·533
9	0. 36	69	4. 36	129	8. 36	189	12. 36	249	16. 36	309	20. 36	9	0. 36	9	0·600
10	0. 40	70	4. 40	130	8. 40	190	12. 40	250	16. 40	310	20. 40	10	0. 40	10	0·667
11	0. 44	71	4. 44	131	8. 44	191	12. 44	251	16. 44	311	20. 44	11	0. 44	11	0·733
12	0. 48	72	4. 48	132	8. 48	192	12. 48	252	16. 48	312	20. 48	12	0. 48	12	0·800
13	0. 52	73	4. 52	133	8. 52	193	12. 52	253	16. 52	313	20. 52	13	0. 52	13	0·867
14	0. 56	74	4. 56	134	8. 56	194	12. 56	254	16. 56	314	20. 56	14	0. 56	14	0·933
15	1. 0	75	5. 0	135	9. 0	195	13. 0	255	17. 0	315	21. 0	15	1. 0	15	1·000
16	1. 4	76	5. 4	136	9. 4	196	13. 4	256	17. 4	316	21. 4	16	1. 4	16	1·067
17	1. 8	77	5. 8	137	9. 8	197	13. 8	257	17. 8	317	21. 8	17	1. 8	17	1·133
18	1. 12	78	5. 12	138	9. 12	198	13. 12	258	17. 12	318	21. 12	18	1. 12	18	1·200
19	1. 16	79	5. 16	139	9. 16	199	13. 16	259	17. 16	319	21. 16	19	1. 16	19	1·267
20	1. 20	80	5. 20	140	9. 20	200	13. 20	260	17. 20	320	21. 20	20	1. 20	20	1·333
21	1. 24	81	5. 24	141	9. 24	201	13. 24	261	17. 24	321	21. 24	21	1. 24	21	1·400
22	1. 28	82	5. 28	142	9. 28	202	13. 28	262	17. 28	322	21. 28	22	1. 28	22	1·467
23	1. 32	83	5. 32	143	9. 32	203	13. 32	263	17. 32	323	21. 32	23	1. 32	23	1·533
24	1. 36	84	5. 36	144	9. 36	204	13. 36	264	17. 36	324	21. 36	24	1. 36	24	1·600
25	1. 40	85	5. 40	145	9. 40	205	13. 40	265	17. 40	325	21. 40	25	1. 40	25	1·667
26	1. 44	86	5. 44	146	9. 44	206	13. 44	266	17. 44	326	21. 44	26	1. 44	26	1·733
27	1. 48	87	5. 48	147	9. 48	207	13. 48	267	17. 48	327	21. 48	27	1. 48	27	1·800
28	1. 52	88	5. 52	148	9. 52	208	13. 52	268	17. 52	328	21. 52	28	1. 52	28	1·867
29	1. 56	89	5. 56	149	9. 56	209	13. 56	269	17. 56	329	21. 56	29	1. 56	29	1·933
30	2. 0	90	6. 0	150	10. 0	210	14. 0	270	18. 0	330	22. 0	30	2. 0	30	2·000
31	2. 4	91	6. 4	151	10. 4	211	14. 4	271	18. 4	331	22. 4	31	2. 4	31	2·067
32	2. 8	92	6. 8	152	10. 8	212	14. 8	222	18. 8	332	22. 8	32	2. 8	32	2·133
33	2. 12	93	6. 12	153	10. 12	213	14. 12	273	18. 12	333	22. 12	33	2. 12	33	2·200
34	2. 16	94	6. 16	154	10. 16	214	14. 16	274	18. 16	334	22. 16	34	2. 16	34	2·267
35	2. 20	95	6. 20	155	10. 20	215	14. 20	275	18. 20	335	22. 20	35	2. 20	35	2·333
36	2. 24	96	6. 24	156	10. 24	216	14. 24	276	18. 24	336	22. 24	36	2. 24	36	2·400
37	2. 28	97	6. 28	157	10. 28	217	14. 28	777	18. 28	337	22. 28	37	2. 28	37	2·467
38	2. 32	98	6. 32	158	10. 32	218	14. 32	278	18. 32	338	22. 32	38	2. 32	38	2·533
39	2. 36	99	6. 36	159	10. 36	219	14. 36	279	18. 36	339	22. 36	39	2. 36	39	2·600
40	2. 40	100	6. 40	160	10. 40	220	14. 40	280	18. 40	340	22. 40	40	2. 40	40	2·667
41	2. 44	101	6. 44	161	10. 44	221	14. 44	281	18. 44	341	22. 44	41	2. 44	41	2·733
42	2. 48	102	6. 48	162	10. 48	222	14. 48	282	18. 48	342	22. 48	42	2. 48	42	2·800
43	2. 52	103	6. 52	163	10. 52	223	14. 52	283	18. 52	343	22. 52	43	2. 52	43	2·867
44	2. 56	104	6. 56	164	10. 56	224	14. 56	284	18. 56	344	22. 56	44	2. 56	44	2·933
45	3. 0	105	7. 0	165	11. 0	225	15. 0	285	19. 0	345	23. 0	45	3. 0	45	3·000
46	3. 4	106	7. 4	166	11. 4	226	15. 4	286	19. 4	346	23. 4	46	3. 4	46	3·067
47	3. 8	107	7. 8	167	11. 8	227	15. 8	287	19. 8	347	23. 8	47	3. 8	47	3·133
48	3. 12	108	7. 12	168	11. 12	228	15. 12	288	19. 12	348	23. 12	48	3. 12	48	3·200
49	3. 16	109	7. 16	169	11. 16	229	15. 16	289	19. 16	349	23. 16	49	3. 16	49	3·267
50	3. 20	110	7. 20	170	11. 20	230	15. 20	290	19. 20	350	23. 20	50	3. 20	50	3·333
51	3. 24	111	7. 24	171	11. 24	231	15. 24	291	19. 24	351	23. 24	51	3. 24	51	3·400
52	3. 28	112	7. 28	172	11. 28	232	15. 28	292	19. 28	352	23. 28	52	3. 28	52	3·467
53	3. 32	113	7. 32	173	11. 32	233	15. 32	293	19. 32	353	23. 32	53	3. 32	53	3·533
54	3. 36	114	7. 36	174	11. 36	234	15. 36	294	19. 36	354	23. 36	54	3. 36	54	3·600
55	3. 40	115	7. 40	175	11. 40	235	15. 40	295	19. 40	355	23. 40	55	3. 40	55	3·667
56	3. 44	116	7. 44	176	11. 44	236	15. 44	296	19. 44	356	23. 44	56	3. 44	56	3·733
57	3. 48	117	7 48	177	11. 48	237	15. 48	297	19. 48	357	23. 48	57	3. 48	57	3·800
58	3. 52	118	7· 52	178	11. 52	238	15. 52	298	19. 52	358	23. 52	58	3. 52	58	3·867
59	3. 56	119	7. 56	179	11. 56	239	15. 56	299	19. 56	359	23. 56	59	3. 56	59	3·933
60	4. 0	120	8. 0	180	12. 0	240	16. 0	300	20. 0	360	24. 0	60	4. 0	60	4·000

REDHILL CATALOGUE

OF CIRCUMPOLAR STARS.

Precession-Constants for the year 1855.

$1800+t'$.	$z+\nu$.	Diff. for 1 year.	$z'-\nu'$.	Diff. for 1 year.	θ.	Diff. for π year.
	′ ″	″	′ ″	″	″	″
1800	−21. 7·28		−21. 6·55		−1103·23	
1805	−19. 12·13	23·030	−19. 11·39	23·033	−1002·92	20·061
1810	−17. 16·98	030	−17. 16·22	035	− 902·62	060
1815	−15. 21·83	029	−15. 21·04	037	− 802·32	060
1820	−13. 26·68	029	−13. 25·85	038	− 702·02	059
1825	−11. 31·54	028	−11. 30·66	040	− 601·73	059
1830	− 9. 36·40	028	− 9. 35·45	042	− 501·43	059
1835	− 7. 41·26	027	− 7. 40·23	044	− 401·14	058
1840	− 5. 46·12	027	− 5. 45·01	046	− 300·85	058
1845	− 3. 50·99	026	− 3. 49·77	048	− 200·57	057
1850	− 1. 55·86	026	− 1. 54·52	050	− 100·28	057
1855	− 0. 0·73	025	+ 0. 0·73	052	0·00	056
1860	+ 1. 54·39	025	+ 1. 56·00	054	+ 100·28	056
1865	+ 3. 49·52	024	+ 3. 51·27	057	+ 200·56	055
1870	+ 5. 44·64	024	+ 5. 46·56	058	+ 300·83	055
1875	+ 7. 39·76	023	+ 7. 41·85	060	+ 401·11	055
1880	+ 9. 34·87	023	+ 9. 37·15	062	+ 501·38	054
1885	+11. 29·99	022	+11. 32·47	064	+ 601·65	054
1890	+13. 25·10	022	+13. 27·79	065	+ 701·92	053
1895	+15. 20·20	23·021	+15. 23·12	23·067	+ 802·18	20·053
1900	+17. 15·31		+17. 18·46		+ 902·45	

For formulæ, *see* Introduction, Section 14.

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
0001	10·0	3	0. 1. 33·3		4. 47. 2·5		
2	8·5†	3	1. 50·4	+1·2	6. 39. 18·7	0·0	An asterisk (*) following the number in the column of magnitudes is intended to indicate that the star has been ascertained at Redhill to be visible without telescopic aid. The sign † is appended in all cases to the magnitudes of those stars which have been ascertained to be easily visible in a dark field with a telescopic aperture of one English inch.
3	9·7	3	2. 18·5		8. 4. 52·7		
4	10·0	3	2. 58·3		7. 44. 34·9		
5	10·3	3	3. 45·8		8. 49. 31·1		
6	10·1	3	3. 55·5		6. 16. 52·0		
7	9·1	3	4. 2·8		7. 36. 41·9		
8	10·3	3	4. 14·7		5. 50. 28·0		
9	10·3	4	4. 23·0		1. 8. 19·5		
0010	9·7	3	0. 4. 25·4		6. 45. 42·0		
0011	9·4	4	0. 4. 30·7		2. 24. 18·5		The numbers given in the columns C−S. are the differences between the positions of the Redhill Catalogue and those deduced by M. Oeltzen, of Vienna, from the observations of Professor Schwerd, of Speyer, brought up from 1828·0 to 1855·0 by precession.
2	10·3	3	4. 43·8		8. 46. 59·9		
3	9·1	4	5. 52·1	+2·5	4. 4. 48·8	+0·1	
4	10·1	4	6. 10·6		3. 18. 56·5		
5	8·7	4	6. 34·5	−0·9	4. 8. 3·2	+0·8	
6	9·1	3	7. 4·9		7. 24. 54·5		
7	8·9	3	7. 22·7		7. 26. 7·9		
8	9·1	4	7. 30·8		3. 26. 59·7		
9	7·5†	2	7. 45·1	−4·8	5. 51. 2·3	+0·4	
0020	10·3	3	0. 8. 52·9		6. 51. 47·4		
0021	10·1	4	0. 9. 2·0		5. 37. 5·5		In the column for notes the letter Σ refers to Struve's work "Stellarum Duplicium Mensuræ Micrometricæ. Petropoli. 1837."
2	8·8	3	9. 22·0		7. 26. 18·6		
3	8·3†	4	11. 2·2	−3·7	1. 21. 32·9	0·0	
4	9·7	3	11. 22·7		8. 59. 59·2		
5	10·5	3	11. 47·7		5. 8. 12·9		
6	10·3	3	11. 48·0		7. 46. 32·9		
7	10·1	4	12. 10·5		2. 45. 54·2		
8	10·3	3	13. 42·3		7. 39. 30·0		
9	10·3	3	14. 0·9		7. 59. 15·1		
0030	10·3	3	0. 14. 25·6		4. 52. 13·2		
0031	10·0	3	0. 14. 46·5		6. 3. 0·9		
2	10·1	3	14. 52·5		4. 46. 9·2		
3	10·3	3	15. 0·8		7. 11. 6·9		
4	10·5	3	15. 48·0		5. 9. 40·4		
5	10·3	4	16. 4·4		3. 25. 43·9		
6	9·7	3	16. 10·5		7. 56. 35·3		
7	10·2	4	16. 14·5		3. 54. 55·7		
8	10·0	3	16. 45·4		8. 48. 25·2		
9	10·0	3	16. 49·9		7. 49. 58·6		
0040	10·0	3	0. 16. 53·3		8. 34. 48·3		
0041	10·4	4	0. 17. 25·8		3. 49. 20·4		
2	10·0	3	17. 34·5		8. 6. 17·8		
3	9·7	3	17. 46·2		6. 31. 45·6		
4	9·7	3	18. 0·8		4 48. 1·4		
5	10·0	3	19. 27·2		8. 55. 18·6		
6	10·3	3	19. 29·0		6. 39. 43·6		
7	10·0	3	19. 40·9		8. 7. 43·6		
8	10·3	3	19. 51·0		5. 46. 31·7		
9	10·0	3	21. 18·5		8. 12. 23·1		
0050	10·0	3	0. 21. 54·6		7. 53. 19·6		
0051	9·7	3	0. 22. 25·5		4. 41. 33·0		
2	7·7†	3	22. 28·6	−1·0	4. 28. 55·9	+0·2	
3	10·1	4	22. 28·7		3. 5. 42·2		
4	9·4	4	22. 36·3		3. 0. 12·8		
5	10·3	4	22. 46·5		5. 45. 19·0		
6	8·7	4	22. 48·0	+1·0	4. 5. 30·1	−1·0	
7	9·0†	3	23. 16·1	+0·4	5. 48. 41·0	+1·2	
8	10·3	3	23. 44·7		7. 16. 30·3		
9	10·0	3	23. 45·8		9. 1. 46·7		
0060	7·8†	3	0. 24. 34·6	+0·2	7. 10. 7·5	−1·5	

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
0061	9·5	3	0. 25. 16·6		7. 42. 24·2		
2	8·7†	3	25. 18·0	+0·2	5. 42. 25·1	+0·6	
3	9·0†	3	25. 27·5	+0·9	4. 49. 50·6	+0·9	
4	9·7	3	25. 37·7		6. 34. 23·4		
5	7·0†	3	26. 19·4	+0·1	6. 7. 24·0	−1·9	
6	10·3	3	26. 38·8		8. 40. 13·6		
7	8·5†	3	27. 20·2	+1·7	6. 3. 6·4	−2·4	
8	9·7	3	27. 21·7	−0·7	4. 24. 13·4	+1·0	
9	8·5†	3	27. 41·3	+1·3	6. 2. 43·4	−0·9	
0070	10·3	4	0. 27. 48·6		2. 38. 17·9		
0071	10·3	4	0. 27. 59·5		3. 55. 31·6		
2	10·3	3	28. 5·0		4. 32. 1·5		
3	10·1	4	28. 17·3		1. 28. 45·9		
4	10·3	3	28. 50·5		8. 36. 15·8		
5	10·1	3	28. 59·6		5. 27. 1·3		
6	6·2*	3	29. 0·8	−1·2	8. 18. 27·0	−3·6	
7	9·7	3	29. 36·2		5. 33. 35·6		
8	9·7	3	30. 12·3		6. 25. 26·0		
9	10·3	3	30. 19·0		4. 52. 41·1		
0080	10·3	3	0. 30. 57·7		4. 18. 19·0		
0081	10·3	4	0. 31. 5·6		2. 49. 52·0		
2	10·3	3	31. 30·3		6. 33. 5·1		
3	9·7	3	31. 50·3	−1·1	9. 0. 21·6	+0·3	
4	10·3	3	32. 12·8		7. 29. 44·3		
5	9·0	5	32. 31·7	−1·2	3. 51. 17·8	−2·1	
6	9·7	3	33. 4·3		8. 28. 28·9		
7	10·3	3	33. 12·0		4. 19. 12·0		
8	9·7	4	33. 24·7		2. 58. 11·7		
9	9·7	3	33. 52·1		5. 44. 41·1		
0090	9·7	3	0. 35. 48·2		7. 39. 37·7		
0091	10·3	4	0. 36. 24·3		2. 54. 32·9		
2	9·7	3	36. 41·9		8. 21. 51·8		
3	10·3	3	36. 52·6		6. 54. 56·0		
4	10·1	4	36. 54·1		2. 53. 58·8		
5	9·7	3	37. 24·6	−4·8	6. 9. 24·5	−2·7	
6	10·3	4	37. 31·4		3. 25. 40·5		
7	9·7	3	37. 45·7		8. 49. 55·8		
8	7·7†	3	38. 28·1	+0·1	8. 49. 29·2	−0·7	
9	9·9	4	38. 50·0		3. 52. 21·4		
0100	10·3	4	0. 39. 26·2		3. 56. 36·7		
0101	8·7†	3	0. 39. 45·5	−0·9	5. 5. 13·0	−0·9	
2	10·4	4	39. 49·3		3. 18. 6·8		
3	10·3	3	39. 53·6		7. 33. 45·8		
4	8·2†	3	40. 51·6	+0·9	5. 19. 50·8	+0·7	
5	9·7	3	41. 16·9		9. 2. 52·1		
6	9·7	3	41. 18·3		5. 29. 13·0		
7	9·7	3	41. 26·5		7. 40. 33·7		
8	9·5	3	41. 33·7	+0·4	8. 0. 12·0	−1·0	
9	5·7*	3	41. 37·2	+1·5	7. 4. 51·7	+0·4	
0110	10·3	3	0. 41. 54·1		8. 1. 55·5		
0111	9·5	3	0. 42. 4·3		8. 52. 28·8		
2	10·3	3	43. 7·1		4. 57. 19·8		
3	8·7	4	43. 11·9	+2·3	3. 28. 10·8	−3·1	
4	10·5	3	43. 46·2		6. 11. 44·5		
5	9·7	3	43. 53·4		7. 4. 45·8		
6	8·9	3	44. 45·8	−0·1	8. 6. 4·1	−1·3	
7	6·7†	20	45. 30·7	+3·6	1. 45. 23·9	+0·1	
8	9·7	3	45. 46·2		7. 6. 11·1		S. p. of a double. Σ 69.
9	7·7†	3	45. 58·6	+1·8	7. 40. 45·5	+2·4	
0120	9·7	3	0. 46. 21·3		7. 59. 45·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C – S.	N.P.D. 1855·0.	C – S.	Notes.
			h m s	s	° ′ ″	″	
0121	9·7	3	0. 46. 50·0		4. 32. 15·3		
2	9·5	3	47. 26·8	+0·9	6. 7. 56·4	+2·1	
3	10·3	3	48. 9·4		9. 5. 18·5		
4	6·7†	3	48. 25·1	+2·1	6. 10. 33·2	+1·5	
5	10·3	3	48. 51·2		6. 42. 16·1		
6	10·1	3	48. 53·0		7. 39. 1·4		
7	9·9	5	49. 5·1		1. 47. 10·5		
8	10·3	3	49. 5·8		8. 10. 8·3		
9	10·3	3	49. 37·1		5. 13. 55·7		
0130	7·9†	3	0. 49. 38·9	+1·0	8. 54. 27·0	−1·5	
0131	4·5*	3	0. 49. 42·9	+1·9	4. 31. 23·5	+0·3	
2	10·3	3	49. 52·8		9. 3. 42·8		
3	9·7	3	50. 38·4	−0·8	4. 58. 57·8	0·0	
4	10·3	3	50. 39·2		4. 20. 7·1		
5	10·0	5	50. 49·2		3. 53. 42·8		
6	8·7†	3	50. 56·3		8. 40. 43·7		
7	9·1	4	50. 59·8		2. 6. 46·0		
8	9·7	3	51. 6·8		8. 14. 16·2		
9	10·3	3	51. 31·2		7. 31. 32·3		
0140	9·3	4	0. 51. 31·7	+0·4	2. 30. 37·4	−1·4	
0141	8·9	3	0. 51. 34·6		8. 31. 56·6		
2	10·4	4	51. 39·5		2. 40. 23·7		
3	10·2	4	51. 42·4		3. 42. 3·1		
4	8·0†	3	52. 29·4	+0·2	8. 49. 8·7	+0·9	
5	6·3†	4	52. 48·1	+1·6	3. 37. 46·4	−0·6	
6	10·1	3	52. 55·1		8. 21. 50·6		
7	10·3	3	54. 8·8		7. 21. 58·8		
8	9·7	3	54. 10·4		7. 17. 2·4		
9	10·1	3	54. 13·6		4. 0. 6·1		
0150	9·7	3	0. 55. 9·6		8. 28. 32·8		
0151	9·6	4	0. 55. 46·1		3. 47. 32·9		
2	10·0	3	55. 52·6		6. 37. 30·9		
3	10·3	3	56. 26·5		4. 22. 33·8		
4	10·3	3	56. 45·3		7. 0. 55·4		
5	9·4	3	56. 56·4		7. 19. 6·5		
6	10·3	4	58. 3·1		3. 25. 20·6		
7	9·5	3	58. 14·8		5. 40. 40·7		
8	10·3	3	58. 28·1		7. 0. 17·3		
9	10·5	3	59. 8·9		8. 37. 5·9		
0160	10·1	5	0. 59. 19·7		2. 52. 49·0		
0161	9·1	3	0. 59. 24·9		8. 59. 37·7		
2	9·7	3	59. 59·3		6. 11. 41·6		
3	10·3	3	1. 0. 21·4		8. 47. 31·7		
4	10·3	4	0. 32·0		3. 49. 9·1		
5	10·3	3	0. 41·4		8. 52. 1·8		
6	10·3	3	0. 41·7		6. 30. 51·5		
7	10·1	3	0. 53·7		4. 20. 44·2		
8	9·7	3	2. 41·3		6. 0. 38·5		
9	9·7	3	2. 54·2		5. 38. 9·6		
0170	10·3	3	1. 3. 1·9		6. 44. 10·2		
0171	10·0	3	1. 3. 33·1		4. 50. 35·5		
2	9·7	4	3. 49·7		1. 40. 6·1		
3	9·3	4	4. 4·2	−1·2	3. 49. 49·7	+0·4	
4	9·7	3	4. 10·0		6. 32. 24·0		
5	10·5	3	4. 26·0		8. 38. 42·4		
6	10·3	3	4. 57·5		5. 53. 27·9		
7	10·3	3	5. 51·6		5. 14 11·9		
8	9·5	4	6. 5·5		1. 28. 4·7		Comes Polaris. Σ 93.
9	10·0	3	6. 10·7		6. 57. 25·5		
0180	9·5	3	1. 6. 22·4		9. 2. 24·9		

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No.	Mag.	Obs.	R.A. 1855·0	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
0181	2 *	56	1. 6. 31·2		1. 27. 48·8		Polaris. Σ 93.
2	9·7	3	6. 38·9	s	6. 15. 50·6	″	
3	8·0†	4	7. 6·4	+7·1	2. 11. 45·8	+1·0	
4	9·7	3	7. 27·0		7. 33. 35·9		
5	10·3	3	7. 42·0		5. 9. 25·6		
6	9·5	3	8. 38·1		6. 1. 34·3		
7	9·7	3	9. 2·2		7. 56. 13·7		
8	10·6	3	9. 59·0		7. 58. 55·1		
9	9·4	3	10. 35·9		8. 1. 46·7		
0190	9·1	3	1. 11. 53·1		5. 21. 53·4		
0191	10·1	4	1. 12. 11·0		2. 51. 11·7		
2	9·7	3	12. 18·9		5. 15. 11·6		
3	10·3	3	13. 28·8		7. 4. 14·2		
4	9·7	3	13. 36·1		7. 46. 5·4		
5	10·3	4	15. 36·4		3. 50. 34·7		
6	10·3	3	16. 9·4		4. 38. 38·1		
7	10·4	4	16. 10·9		2. 2. 58·9		
8	10·3	3	16. 17·3		7. 0. 32·0		
9	10·2	4	17. 16·8		4. 0. 23·3		
0200	9·7	3	1. 17. 32·3		8. 21. 24·5		
0201	9·7	5	1. 17. 35·0	+4·1	0. 59. 51·5	+0·5	
2	9·7	3	17. 55·3	+5·3	7. 54. 27·0	−2·0	
3	9·1	3	18. 1·6		7. 23. 47·8		Σ 118.
4	10·3	2	18. 6·6		7. 23. 43·5		Σ 118.
5	8·5†	3	18. 16·7	+0·9	7. 57. 30·1	+0·4	
6	9·5	3	18. 35·7		6. 16. 3·5		
7	9·4	3	18. 59·4	−0·1	8. 50. 40·4	−0·6	
8	9·7	3	20. 49·5		8. 30. 0·6		
9	10·0	3	21. 19·4		5. 31. 35·7		
0210	10·3	3	1. 22. 3·1		8. 19. 11·6		
0211	10·2	4	1. 22. 52·0		4. 2. 14·1		
2	10·3	3	22. 57·4		8. 43. 21·8		
3	10·1	3	22. 58·9		8. 49. 50·0		
4	9·7	3	23. 50·0	−1·1	5. 47. 46·2	−2·0	
5	10·3	3	24. 15·7		5. 15. 52·9		
6	10·3	3	24. 40·8		6. 52. 56·8		
7	10·6	3	24. 45·3		4. 56. 39·5		
8	9·7	3	24. 51·0		4. 28. 11·4		
9	9·7	3	25. 10·7		8. 40. 2·5		
0220	10·3	3	1. 25. 26·4		8. 40. 8·4		
0221	10·3	3	1. 26. 4·2		5. 1. 33·2		
2	9·7	3	26. 8·5		9. 3. 14·4		
3	10·3	3	26. 24·2		8. 57. 14·1		
4	10·1	3	26. 28·2		6. 38. 19·0		
5	7·9†	3	27. 28·9	+2·0	5. 31. 5·4	−1·8	
6	10·0	3	28. 18·6		4. 47. 40·5		
7	9·7	3	28. 32·7	+1·0	5. 40. 25·5	−1·1	
8	10·3	3	28. 40·8		4. 6. 45·6		
9	9·5	3	28. 56·5	+0·5	8. 15. 13·9	+1·0	
0230	10·3	3	1. 29. 11·3		5. 25. 53·7		
0231	10·3	4	1. 30. 17·0		3. 2. 11·0		
2	10·3	3	30. 18·1		8. 50. 18·7		
3	9·5	3	31. 10·1	−3·0	6. 21. 5·9	−3·3	
4	9·5	3	31. 12·4		8. 28. 34·0		
5	9·7	3	31. 35·4		4. 39. 26·2		
6	8·0†	5	31. 37·9	+5·7	3. 47. 20·0	+2·1	
7	10·3	3	31. 47·4		8. 20. 19·9		
8	10·0	3	32. 3·4		7. 38. 36·0		
9	10·0	3	32. 32·1		6. 18. 19·5		
0240	9·7	3	1. 32. 49·8		7. 7. 29·6		

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			h m s		° ′ ″		
0241	10·3	4	1. 32. 51·4		3. 58. 52·0		
2	9·7	5	32. 57·4	s	3. 45. 8·2	″	
3	9·1	3	33. 9·6	+0·8	6. 23. 48·6	−0·8	
4	9·7	3	33. 19·3		8. 2. 26·3		
5	9·7	3	33. 29·4	+0·4	8. 55. 1·2	−1·0	
6	9·7	3	34. 21·8		8. 8. 48·4		
7	9·1	3	34. 21·8	−0·6	5. 34. 35·8	−0·8	
8	8·9	3	34. 40·5		7. 42. 20·5		
9	10·0	3	35. 6·3		6. 39. 33·5		
0250	10·3	3	1. 35. 25·5		8. 46. 59·3		
0251	8·2†	5	1. 35. 33·7	+5·3	2. 13. 18·8	+1·5	
2	9·7	3	36. 22·9		4. 58. 26·4		
3	10·3	3	36. 44·4		8. 26. 55·2		
4	10·3	3	37. 45·7		4. 29. 49·4		
5	9·7	3	37. 46·2		6. 49. 33·7		
6	7·5†	3	38. 23·7	+1·1	8. 45. 41·3	−0·6	
7	9·7	3	38. 26·0		6. 59. 55·8		
8	9·5	3	38. 34·0		8. 4. 54·6		
9	10·3	3	38. 40·2		5. 29. 3·2		
0260	7·7†	3	1. 39. 10·1	+0·2	5. 58. 28·7	+0·1	
0261	10·3	3	1. 39. 44·5		6. 21. 26·5		
2	10·3	3	39. 49·3		6. 2. 38·0		
3	9·3	4	40. 2·1	+7·7	2. 0. 57·4	−1·4	
4	10·3	3	40. 8·2		6. 9. 58·0		
5	10·0	3	40. 44·8		4. 14. 37·9		
6	10·0	3	40. 45·0		8. 15. 54·3		
7	10·3	4	40. 53·2		2. 30. 55·9		
8	10·3	3	40. 56·5		4. 52. 55·7		
9	9·7	3	41. 14·6		5. 48. 54·4		
0270	10·3	3	1. 42. 51·3		4. 49. 50·8		
0271	10·4	4	1. 43. 46·3		3. 31. 15·0		
2	9·7	3	44. 2·7		8. 55. 32·6		
3	10·0	3	44. 31·5		8. 19. 36·0		
4	8·8	3	44. 53·1	+0·4	8. 9. 26·5	−0·1	
5	10·0	3	45. 35·1		6. 20. 1·1		
6	10·0	3	45. 45·4		7. 51. 50·1		
7	9·7	3	46. 22·5		8. 14. 31·3		
8	10·1	4	46. 57·9		3. 48. 16·2		
9	9·1	4	47. 1·2		3. 55. 52·9		
0280	9·7	3	1. 47. 27·8		8. 22. 42·8		
0281	10·3	3	1. 48. 48·4		7. 1. 13·8		
2	9·7	3	48. 54·4		9. 4. 32·3		
3	7·3†	3	50. 50·2	0·0	4. 57. 30·3	−2·4	
4	8·4†	4	51. 7·8	−4·3	1. 30. 48·0	+2·4	
5	10·3	3	51. 9·7		7. 7. 58·0		
6	9·7	3	51. 21·9		7. 14. 54·1		
7	10·1	3	51. 52·4		7. 39. 34·6		
8	10·3	4	51. 58·2		0. 46. 39·3		
9	10·3	3	52. 6·3		5. 26. 31·3		
0290	9·7	3	1. 52. 11·4		6. 45. 1·1		
0291	9·7	4	1. 52. 19·4		3. 14. 56·3		
2	10·3	3	53. 15·1		6. 43. 26·6		
3	9·1	4	53. 20·5		3. 19. 2·5		
4	10·3	3	53. 38·8		4. 18. 55·4		
5	10·3	3	53. 46·7		8. 29. 9·7		
6	10·1	4	53. 51·0		3. 53. 30·1		
7	10·3	3	53. 53·4		6. 2. 41·9		
8	10·3	4	54. 19·2		3. 59. 12·6		
9	7·0†	3	55. 4·7	+1·8	7. 7. 32·4	+0·5	
0300	10·0	3	1. 55. 18·2		6. 16. 12·6		

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			h m s	s	° ′ ″	″	
0301	10·3	3	1. 56. 20·7		8. 9. 53·2		
2	10·3	3	57. 4·2		6. 5. 49·6		
3	9·6	4	57. 36·6	+4·7	1. 6. 31·0	+0·6	
4	10·3	3	57. 56·3		6. 16. 4·2		
5	8·9	4	58. 53·0	−3·8	1. 57. 18·5	+0·2	
6	9·5	3	58. 53·9		6. 6. 25·7		
7	9·7	3	59. 31·8	+0·3	5. 52. 16·7	+1·5	
8	10·3	3	59. 42·2		8. 53. 10·0		The third of four stars.
9	10·3	4	2. 0. 14·4		3. 33. 13·8		
0310	9·7	3	2. 0. 34·2		7. 32. 4·7		
0311	9·7	3	2. 0. 55·8		5. 29. 31·9		
2	9·7	3	1. 43·5		6. 37. 16·3		
3	10·0	3	2. 4·1		5. 26. 23·0		
4	9·4	3	2. 8·2	+2·0	5. 36. 24·9	−1·6	
5	10·1	4	2. 27·5		2. 18. 19·2		
6	8·0†	3	3. 4·5	+0·7	6. 59. 39·8	+0·2	
7	10·0	3	3. 27·1		8. 53. 13·8		
8	10·3	3	3. 50·7		5. 29. 43·4		
9	10·3	3	6. 38·7		8. 29. 1·0		
0320	9·7	3	2. 8. 46·7		8. 17. 22·8		
0321	10·3	4	2. 9. 7·2		3. 51. 28·9		
2	9·7	3	9. 25·4		8. 44. 4·8		
3	10·0	3	9. 41·0		8. 32. 40·7		
4	9·7	3	9. 45·9		7. 27. 55·6		
5	10·3	4	9. 54·9		3. 17. 45·3		
6	10·1	3	9. 56·5		6. 3. 21·5		
7	10·3	3	11. 3·4		9. 5. 26·9		
8	9·5	3	11. 26·5	+0·4	5. 35. 17·2	+1·6	
9	10·3	4	12. 8·4		2. 11. 10·1		
0330	9·7	3	2. 13. 6·0		8. 18. 37·0		
0331	9·9	4	2. 13. 10·5		1. 47. 55·3		
2	7·1†	3	13. 15·7	−1·2	6. 48. 59·9	0·0	
3	8·9	3	13. 33·0		7. 38. 37·4		
4	9·7	4	13. 42·5		3. 39. 9·2		
5	10·1	3	13. 50·8		5. 21. 0·1		
6	9·7	3	13. 50·9		7. 20. 1·1		
7	8·7†	3	14. 9·0	+0·4	4. 50. 26·3	−2·9	
8	9·7	3	14. 40·7		8. 32. 39·0		
9	10·0	3	14. 42·6		7. 15. 22·7		
0340	9·7	3	2. 14. 59·6		8. 50. 24·6		
0341	10·3	3	2. 15. 14·8		6. 39. 40·1		
2	9·7	3	15. 36·1		6. 21. 45·2		
3	10·0	3	15. 53·7		5. 5. 47·6		
4	9·7	3	16. 35·0		7. 52. 27·5		
5	10·3	4	16. 42·8		0. 59. 21·1		
6	8·1†	3	17. 4·1	+0·9	9. 0. 11·7	−2·7	
7	9·1	4	17. 7·0	+2·6	1. 37. 47·8	−0·3	
8	9·7	3	18. 39·9		8. 48. 42·4		
9	10·1	3	19. 9·1		8. 23. 3·7		
0350	10·3	3	2. 19. 13·4		6. 1. 50·6		
0351	10·3	3	2. 19. 25·2		8. 39. 45·1		
2	7·7†	5	20. 9·4	+1·0	3. 35. 23·6	−2·0	
3	10·3	4	20. 46·9		2. 19. 32·1		
4	9·7	3	20. 51·5		7. 0. 59·8		
5	10·1	3	21. 1·2		8. 41. 54·3		
6	10·3	4	21. 52·7		3. 53. 47·4		
7	9·5	3	22. 1·1		4. 22. 10·9		
8	9·7	3	22. 21·8		8. 18. 16·7		
9	9·7	3	23. 8·6		7. 47. 39·9		
0360	10·5	3	2. 23. 12·1		7. 48. 40·3		

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No.	Mag.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s	s	° ′ ″	″	
0361	10·3	3	2. 23. 23·0		4. 8. 38·6		
2	9·7	4	23. 29·7		1. 47. 58·5		
3	8·8	3	23. 39·2	−2·4	6. 45. 12·4	−2·4	
4	9·9	4	24. 25·4		3. 25. 32·8		
5	9·4	3	24. 46·5		8. 57. 15·9		
6	9·7	3	25. 14·3		8. 58. 14·0		
7	8·5†	3	26. 31·6		8. 45. 27·5		
8	10·3	3	27. 5·5		7. 23. 32·5		
9	9·7	4	28. 22·0		2. 22. 21·8		
0370	9·7	3	2. 28. 24·7		7. 6. 17·1		
0371	9·4	3	2. 28. 36·8		5. 26. 6·1		
2	10·3	3	28. 56·8		8. 58. 28·0		
3	9·7	3	29. 16·8		8. 38. 30·4		
4	9·5	3	29. 27·3	+1·2	4. 44. 47·2	−1.5	
5	8·5†	9	30. 34·5	+5·6	2. 2. 53·0	+0·9	
6	10·3	3	30. 38·6		4. 21. 43·0		
7	9·5	3	30. 54·4	+0·7	4. 44. 10·3	−2·2	
8	10·3	3	31. 24·4		5. 57. 28·5		
9	9·7	3	31. 51·2		7. 44. 6·6		
0380	10·3	3	2. 32. 0·8		7. 15. 36·5		
0381	10·3	3	2. 32. 3·1		7. 53. 18·5		
2	9·7	3	32. 17·1		6. 11. 15·4		
3	10·3	3	32. 22·2		5. 56. 5·9		
4	9·7	3	32. 31·2		8. 43. 17·2		
5	10·3	3	32. 35·6		7. 28. 59·0		
6	10·3	3	32. 48·6		8. 0. 40·7		
7	8·6†	3	32. 53·9	+0·7	8. 12. 32·5	+0·8	
8	10·3	4	33. 24·4		3. 29. 37·7		
9	10·3	3	33. 25·6		7. 18. 39·9		
0390	9·7	3	2. 34. 20·1		7. 46. 9·2		
0391	10·3	3	2. 34. 40·4		6. 12. 43·4		
2	8·9	3	34. 44·2		8. 45. 39·4		
3	9·6	4	35. 19·9		3. 3. 9·1		
4	9·1	4	35. 28·6		3. 10. 26·0		
5	10·3	3	35. 46·7		4. 20. 56·9		
6	9·5	3	36. 2·9		7. 26. 24·6		
7	10·3	4	36. 18·3		1. 17. 58·0		
8	9·5	3	36. 40·6		5. 57. 29·0		
9	10·3	3	37. 39·1		7. 0. 17·7		
0400	10·1	3	2. 37. 51·7		6. 49. 25·6		
0401	9·7	3	2. 38. 35·9		8. 31. 10·1		
2	10·3	3	39. 49·0		6. 36. 29·5		
3	9·7	4	39. 59·8		3. 22. 24·4		
4	10·3	4	40. 19·3		3. 50. 45·3		
5	10·3	3	40. 44·0		6. 47. 54·9		
6	9·3	4	40. 59·7	+1·5	2. 38. 26·7	−0·1	
7	9·7	3	41. 50·2		5. 58. 20·5		
8	9·7	3	42. 20·1		8. 28. 44·6		
9	9·9	4	42. 27·3		1. 43. 41·8		
0410	10·3	3	2. 42. 45·7		7. 55. 44·0		
0411	9·7	3	2. 42. 59·8	−0·8	6. 44. 0·6	−0·7	
2	9·1	5	43. 21·3		2. 10. 29·2		
3	10·3	3	43. 32·9		7. 54. 36·0		
4	10·0	3	43. 36·6		6. 50. 54·4		
5	10·3	3	45. 0·9		6. 32. 30·3		
6	10·0	3	45. 15·3		6. 59. 43·6		
7	9·7	3	45. 55·7		7. 18. 29·1		
8	10·3	3	46. 21·9		7. 28. 32·2		
9	10·3	3	46. 27·6		5. 42. 53·7		
0420	10·3	3	2. 46. 34·0		6. 32. 21·3		

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No.	Mag.	Obs.	R.A. 1855·0	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s	s	° ′ ″	″	
0421	10·3	4	2. 46. 39·2		3. 5. 51·7		
2	8·7†	3	46. 42·5	+0·4	5. 43. 29·1	−1·3	
3	7·3†	3	46. 51·2	+0·2	7. 40. 5·4	−1·9	
4	10·0	3	47. 40·0		6. 6. 39·6		
5	10·3	3	47. 57·7		5. 6. 42·9		
6	8·7†	3	48. 13·3	+0·5	5. 34. 58·6	−0·9	
7	9·1	3	48. 37·7		6. 59. 49·5		
8	9·7	5	49. 31·5		1. 50. 29·7		
9	6·0*	3	49. 34·3	0·0	9. 5. 54·8	−1·6	
0430	10·3	3	2. 50. 14·9		8. 7. 24·3		
0431	10·5	3	2. 50. 52·6		5. 35. 21·4		
2	10·3	3	51. 7·8		4. 53. 10·8		
3	10·0	3	51. 49·7		6. 52. 30·5		
4	10·1	3	52. 9·1		5. 34. 32·3		
5	9·4	3	52. 16·1		4. 8. 9·9		
6	10·3	3	52. 24·0		6. 8. 34·8		
7	10·0	3	52. 34·2		7. 28. 59·9		
8	9·7	3	52. 44·0	−0·1	7. 23. 22·7	−2·3	
9	10·3	3	53. 33·3		5. 52. 41·6		
0440	9·7	3	2. 53. 35·1		8. 40. 7·3		
0441	9·7	3	2. 53. 42·9		4. 48. 47·8		
2	9·7	3	54. 18·3		7. 54. 56·4		
3	9·7	3	54. 57·9		8. 27. 26·9		
4	10·3	3	55. 11·9		8. 2. 24·5		
5	9·5	3	56. 10·9	−0·2	7. 16. 23·8	−1·6	
6	10·3	3	57. 18·4		8. 9. 34·0		
7	9·7	3	58. 6·4		5. 22. 15·7		
8	10·3	4	58. 13·7		2. 38. 44·5		
9	10·3	3	58. 33·5		5. 4. 34·0		
0450	10·3	3	2. 58. 45·2		9. 2. 54·8		
0451	5·7*	3	2. 58. 47·7	+1·0	5. 36. 54·0	+2·7	
2	10·3	4	58. 59·0		3. 56. 7·3		
3	7·5†	3	59. 17·4	+0·6	8. 23. 29·3	+0·3	
4	9·7	3	59. 26·3		5. 54. 56·6		M 344?
5	10·3	3	59. 36·4		7. 50. 23·6		
6	7·7†	3	59. 51·6	−0·2	7. 0. 26·4	−0·6	
7	9·3†	3	59. 58·0		6. 29. 12·4		M 343.
8	8·8†	3	3. 0. 5·9	+1·0	6. 29. 32·5	−0·3	M 343.
9	9·7	3	3. 20·0		7. 49. 6·2		
0460	9·7	3	3. 3. 36·5		8. 33. 42·8		
0461	10·3	3	3. 4. 52·5		7. 37. 16·5		
2	9·7	3	4. 56·6		5. 35. 34·0		
3	10·3	3	4. 59·5		4. 37. 46·9		
4	10·0	3	5. 40·2		6. 3. 51·5		
5	10·3	3	7. 1·2		7. 11. 34·3		
6	10·3	3	7. 26·3		6. 40. 53·6		
7	10·3	3	7. 26·5		7. 43. 19·3		
8	10·3	3	7. 39·8		6. 39. 18·6		
9	9·7	3	8. 31·7		8. 32. 32·2		
0470	10·1	3	3. 8. 52·7		8. 29. 13·0		
0471	9·7	3	3. 8. 55·6		4. 13. 16·6		
2	10·0	3	9. 23·6		8. 47. 26·2		
3	9·9	5	9. 56·5		3. 10. 10·4		
4	8·5†	3	10. 59·4	+0·8	8. 42. 55·4	+0·5	
5	10·1	4	11. 12·3		0. 55. 40·0		
6	10·3	3	11. 57·1		5. 17. 37·6		
7	9·0†	3	11. 59·9	+0·8	7. 6. 6·9	+1·6	
8	10·3	3	12. 32·1		8. 19. 9·8		
9	9·7	3	12. 53·9		8. 57. 59·4		
0480	9·1	3	3. 13. 28·9		8. 24. 8·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
0481	10·3	3	3. 13. 52·0		9. 2. 33·1		
2	9·7	3	14. 23·9		7. 26. 29·0		
3	10·3	4	14. 27·0		2. 46. 43·2		
4	9·7	3	14. 44·3		8. 59. 49·1		
5	8·5†	4	14. 53·8	+0·9	7. 7. 59·6	+0·7	
6	10·3	3	15. 19·2		8. 55. 31·0		
7	10·3	3	15. 20·8		7. 45. 27·1		
8	10·0	3	18. 5·2		7. 48. 50·1		
9	9·7	3	18. 53·6		5. 12. 59·7		
0490	10·2	4	3. 19. 8·4		3. 34. 20·7		The p. star of a double.
0491	5·9*	5	3. 19. 28·6	+4·0	3. 49. 19·2	+1·3	
2	10·1	3	19. 57·0		8. 55. 45·3		
3	10·0	3	20. 42·0		7. 7. 49·8		
4	10·3	3	20. 50·2		7. 59. 47·8		
5	8·9	3	21. 14·8		7. 7. 7·4		
6	9·1	3	21. 33·7		5. 38. 50·3		
7	9·7	4	21. 49·1		3. 44. 26·3		
8	10·3	4	22. 16·0		3. 14. 39·1		
9	10·3	3	22. 20·4		6. 12. 21·1		N. f. of two of equal magnitude.
0500	10·3	4	3. 23. 3·6		1. 45. 19·5		
0501	9·7	3	3. 23. 36·7		8. 35. 12·4		
2	10·3	3	24. 18·0		6. 53. 47·3		
3	9·7	3	24. 47·5	+1·7	5. 59. 37·4	−0·7	
4	7·7†	3	24. 47·6	+0·8	6. 55. 6·6	−0·1	
5	9·1	3	26. 26·8	+2·9	4. 49. 21·2	−0·4	
6	10·3	3	27. 27·9		8. 27. 31·7		
7	9·7	3	27. 35·7		9. 0. 36·7		
8	10·3	3	27. 57·3		6. 57. 11·2		
9	8·9	3	28. 8·5	+0·3	5. 46. 55·3	+0·7	
0510	10·1	3	3. 28. 32·5		7. 26. 23·6		
0511	8·1†	3	3. 28. 49·0		8. 54. 40·3		
2	10·3	3	28. 58·8		5. 45. 16·1		
3	10·3	3	29. 10·6		7. 50. 59·1		
4	10·1	3	29. 14·5		8. 18. 30·0		
5	9·7	3	29. 19·5		7. 3. 8·5		
6	9·7	4	29. 28·3		8. 53. 2·7		
7	10·3	3	29. 54·9		5. 40. 2·6		
8	9·5	3	29. 59·0		5. 15. 25·9		
9	10·1	3	30. 0·2		7. 11. 29·2		
0520	9·7	3	3. 30. 22·9		7. 53. 33·0		
0521	8·5†	4	3. 30. 31·3	+1·1	7. 42. 59·2	+0·5	
2	10·3	3	30. 44·1		5. 10. 14·4		
3	9·7	3	31. 29·6		8. 19. 4·4		
4	10·3	3	31. 55·5		7. 58. 58·0		
5	10·1	3	32. 40·7		5. 23. 55·6		
6	9·7	3	33. 5·0		8. 11. 20·2		
7	10·3	3	33. 6·2		8. 44. 41·2		
8	10·0	3	33. 11·4		8. 11. 1·2		
9	9·9	4	33. 21·0		1. 30. 10·3		
0530	10·0	3	3. 33. 56·1		6. 52. 49·9		
0531	10·3	3	3. 34. 16·6		6. 45. 11·3		
2	9·1	3	34. 20·2		6. 19. 56·0		
3	9·6	4	34. 29·4		2. 52. 47·0		
4	10·3	3	34. 50·5		7. 4. 23·4		
5	9·7	3	35. 59·6		8. 24. 52·5		
6	9·7	3	36. 15·8		8. 52. 47·8		
7	9·6	4	36. 18·9	+1·3	3. 28. 17·1	−2·5	
8	9·7	5	37. 11·1		1. 5. 56·7		
9	7·5†	3	37. 37·7	+1·3	8. 33. 13·8	+2·8	
0540	10·3	3	3. 37. 46·1		7. 56. 48·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
0541	9·5	3	3· 37· 52·6		7· 33· 38·8		
2	9·7	4	38. 2·8	s	2. 56. 38·5	″	
3	8·0†	3	38. 8·7	+0·4	8. 51. 10·9	+1·8	
4	10·5	3	38. 26·3		5. 8. 36·2		
5	8·7	5	38. 42·7	+0·4	2. 6. 16·7	+2·4	
6	10·1	3	38. 55·7		4. 20. 41·1		
7	10·3	3	38. 56·0		2. 41. 19·0		
8	10·0	3	39. 31·2		3. 54. 44·6		
9	9·7	3	41. 21·2		8. 40. 42·5		
0550	10·3	3	3· 42. 16·8		8. 3. 56·1		
0551	10·3	3	3· 42. 38·1		5· 3. 35·2		
2	9·7	3	43. 57·8		7. 42. 47·7		
3	9·7	3	44. 31·5		8. 43. 8·6		
4	9·7	3	44. 39·0		6. 46. 43·2		
5	9·7	3	44. 45·3		8. 28. 7·2		
6	9·1	3	44. 49·4		7. 17. 36·6		
7	10·3	4	44. 51·4		3· 7. 41·1		
8	10·3	3	45. 33·3		3. 13. 32·0		
9	10·3	3	45. 44·9		7. 19. 34·7		
0560	10·3	3	3· 46. 1·4		6. 13. 24·9		
0561	10·3	3	3· 46. 29·3		6. 58. 17·9		
2	9·7	3	46. 33·6		8. 55. 5·9		
3	9·7	3	47. 10·1		7. 49. 52·1		
4	10·3	3	47. 58·1		7. 11. 48·1		
5	9·1	3	48. 0·7	+0·8	6. 29. 24·2	−0·4	
6	10·1	3	48. 14·6		7. 56. 2·4		
7	10·3	3	49. 20·7		8. 34. 35·1		
8	10·0	3	49. 56·9		8. 58. 4·5		
9	10·3	3	51. 7·6		6. 50. 3·5		
0570	10·1	3	3· 51. 9·8		8. 12. 11·7		
0571	8·8	3	3· 51. 13·7	+0·5	6. 17. 50·6	+1·0	
2	9·5	3	51. 14·3		4. 29. 34·3		
3	9·5	3	51. 18·4		6. 54. 59·1		
4	10·3	4	51. 57·9		3· 3· 5·7		
5	7·0†	16	52. 25·1	+0·6	4. 50. 7·5	−0·4	
6	10·3	3	53. 7·2		8. 2. 48·3		
7	7·3†	3	53. 46·0	−0·1	8. 24. 14·5	−0·5	
8	10·0	3	53. 48·4		8. 58. 14·9		
9	10·3	4	53. 49·5		0. 59. 29·3		
0580	5·6*	3	3· 55. 4·1	+0·9	6. 33. 38·6	−1·3	
0581	8·5†	3	3· 55. 10·0	+1·1	8. 56. 55·3	+1·6	
2	10·3	3	55. 20·9		6. 38. 43·9		
3	10·1	3	55. 27·8		7. 59. 9·6		
4	7·6†	3	55. 39·8	+0·9	8. 44. 35·7	+0·8	
5	10·3	6	55. 56·6		1. 11. 31·4		
6	9·7	3	56. 1·9		6. 40. 24·6		
7	9·5	3	56. 36·1		6. 32. 57·4		
8	10·3	3	56. 48·7		5. 46. 17·8		
9	10·3	3	57. 11·0		6. 31. 13·0		
0590	10·0	3	3· 57. 18·4		6. 59. 8·5		
0591	7·7†	3	3· 58. 3·7	+1·9	5. 52. 48·1	−2·2	
2	10·5	3	58. 27·5		6. 31. 29·5		
3	5·8*	3	58. 32·4	−0·5	7. 1. 24·8	−3·9	
4	9·7	3	58. 59·6		5. 49. 21·1		
5	10·0	3	59. 44·8		7. 8. 17·4		
6	8·9	3	4· 1. 5·7	+0·5	6. 10. 31·3	−0·8	
7	10·3	3	1. 59·8		5. 21. 56·4		
8	10·3	3	2. 3·5		6. 9. 32·8		
9	10·1	3	2. 21·2		8. 31. 31·6		
0600	9·6	5	4· 3· 15·7		3· 7· 9·3		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
0601	9·7	3	4· 3· 28·1		7· 53· 17·2		
2	10·5	3	4· 33·0		3· 5· 43·0		
3	9·1	3	4· 36·0		4· 52· 26·3		
4	9·4	3	5· 34·5		7· 0· 18·9		
5	9·7	3	5· 49·6		5· 22· 55·4		
6	10·1	3	5· 57·2		9· 5· 19·3		
7	9·7	3	6· 0·5		8· 0· 7·0		
8	9·7	3	6· 6·8		5· 7· 29·5		
9	9·7	3	7· 13·0		7· 38· 38·3		
0610	9·5	3	4· 7· 27·7		5· 18· 38·9		
0611	8·8†	3	4· 7· 49·7	+1·6	4· 37· 52·8	+0·4	
2	10·3	3	8· 18·4		8· 10· 10·7		
3	9·7	3	8· 48·4		8· 31· 25·7		
4	8·8	3	9· 31·7	+1·2	7· 50· 30·2	−1·1	
5	10·3	3	9· 53·5		8· 28· 46·6		
6	10·3	3	10· 37·2		7· 35· 30·5		Another follows more north.
7	9·9	4	10· 53·2		3· 51· 20·2		
8	8·2†	3	10· 58·0	+1·4	6· 16· 57·4	−0·8	
9	9·5	5	11· 3·7		2· 24· 5·3		
0620	10·3	3	4· 11· 23·5		4· 18· 4·9		
0621	8·8	3	4· 12· 29·4		9· 2· 17·2		
2	9·4	3	12· 47·6		5· 40· 44·4		
3	10·0	3	13· 6·7		6· 22· 44·2		
4	9·7	3	14· 55·5		6· 22· 19·5		
5	10·3	3	15· 10·3		8· 55· 5·4		
6	10·3	3	15· 15·7		5· 36· 5·2		
7	10·3	4	15· 25·2		1· 56· 56·4		
8	9·7	4	15· 38·1		3· 57· 1·9		
9	10·3	4	16· 26·9		3· 36· 51·5		
0630	10·3	4	4· 16· 43·1		6· 25· 0·5		
0631	10·3	3	4· 17· 6·8		7· 37· 29·0		
2	10·3	3	17· 23·5		8· 4· 8·2		
3	8·8	3	17· 43·1	+1·5	6· 32· 46·5	+1·0	
4	10·0	3	18· 20·4		4· 37· 15·8		
5	9·7	4	18· 26·0	+1·0	3· 48· 24·5	+0·6	
6	10·5	3	18· 49·4		7· 54· 54·1		
7	10·3	2	19· 8·3		4· 6· 15·1		
8	9·7	3	19· 29·3		8· 0· 1·5		
9	9·7	3	19· 32·3		8· 8· 57·9		
0640	9·0†	4	4· 19· 51·4	+0·3	3· 22· 36·3	−4·0	
0641	9·7	3	4· 20· 10·7		4· 5· 46·4		
2	9·7	3	20· 51·9		5· 0· 7·1		
3	7·9†	3	21· 14·4	+0·9	5· 23· 57·7	−0·2	
4	10·2	4	22· 10·6		2· 16· 32·6		
5	10·3	3	22· 37·7		6· 52· 30·3		
6	9·4	3	23· 20·3		8· 18· 52·5		
7	9·4	3	23· 20·9		6· 36· 8·6		
8	8·1†	3	24· 11·2	+1·2	6· 58· 25·4	+0·2	
9	9·7	3	24· 39·8		8· 44· 31·7		
0650	9·7	3	4· 25· 22·5		7· 34· 22·7		
0651	9·7	3	4· 26· 5·2		8· 47· 11·7		
2	10·0	3	26· 16·3		6· 46· 26·7		
3	10·3	3	26· 53·5		8· 51· 0·2		
4	7·6†	3	27· 7·6	+1·3	7· 4· 10·2	−1·0	
5	9·5	3	27· 13·2		8· 48· 32·7		
6	10·1	3	27· 13·5		8· 33· 46·4		
7	9·1	3	27· 57·2		6· 32· 32·1		
8	9·5	3	28· 1·9		8· 11· 41·1		
9	9·1	3	28· 55·9	+1·2	8· 40· 12·6	+2·1	
0660	10·3	4	4· 29· 23·2		2· 0· 2·1		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
0661	9·7	3	4. 29. 43·6		7. 32. 21·0		
2	7·7†	4	30. 8·6	+1·6	3. 55. 43·7	+0·6	
3	10·3	3	30. 32·0		5. 45. 56·9		
4	9·7	3	30. 32·2		7. 24. 51·4		
5	8·0†	3	30. 58·9	+1·4	8. 37. 22·1	−1·4	
6	10·3	3	31. 17·6		5. 19. 21·3		
7	9·7	3	31. 34·0		6. 13. 11·3		
8	10·4	4	31. 43·3		1. 30. 32·6		
9	8·1†	3	32. 10·6	+0·7	6. 46. 4·8	−1·5	The second of two.
0670	9·6	4	4. 32. 13·1	+2·5	3. 21. 7·1	−5·3	Σ 558. (3″·0).
0671	10·3	3	4. 32. 37·4		5. 51. 28·8		
2	10·3	3	32. 42·6		3. 48. 2·4		
3	9·7	3	32. 56·8		8. 55. 12·1		
4	10·3	3	33. 11·3		4. 11. 1·0		
5	5·2*	3	33. 24·7	+0·8	9. 3. 37·4	−1·2	
6	10·3	3	34. 5·7		7. 56. 16·8		
7	10·3	3	34. 17·6		5. 50. 4·6		
8	8·9	3	34. 49·4	+1·1	5. 1. 52·5	−0·6	
9	10·3	4	35. 4·5		1. 52. 50·6		
0680	9·7	4	4. 35. 25·6		6. 51. 11·8		
0681	8·8†	3	4. 35. 51·1	+0·6	8. 58. 16·0	−1·4	
2	9·7	3	35. 56·6		7. 33. 6.6		
3	10·3	2	36. 21·1		4. 7. 37·8		
4	10·1	4	36. 28·4		4. 7. 16·7		
5	9·7	3	37. 46·5		8. 14. 57·1		
6	10·3	3	37. 56·1		7. 6. 29·0		
7	8·6†	3	38. 29·0	+0·4	7. 42. 55·4	−1·9	
8	10·3	3	39. 3·1		4. 6. 38·8		
9	10·2	4	39. 8·5		3. 35. 13·8		
0690	10·3	3	4. 39. 9·1		8. 12. 47·8		
0691	8·8	3	4. 39. 22·3		6. 40. 51·7		
2	8·9	3	39. 25·1		6. 0. 14·3		
3	10·3	3	39. 51·0		6. 40. 1·7		
4	10·0	3	40. 9·5		5. 53. 27·9		
5	9·1	3	40. 15·6	−1·2	7. 39. 20·9	−1·6	
6	10·3	3	40. 35·3		5. 41. 18·7		
7	10·3	3	40. 42·4		7. 10. 32·0		
8	6·3*	3	41. 0·2	+1·7	4. 14. 46·8	+2·2	
9	10·2	4	41. 0·8		2. 55. 52·9		
0700	10·3	3	4. 41. 47·9		7. 24. 18·0		
0701	9·7	3	4. 43. 17·6		7. 44. 3·7		Σ 595. (3″·1).
2	10·3	3	43. 40·9		8. 5. 56·7		
3	10·3	3	43. 43·7		5. 52. 40·5		
4	8·4†	3	45. 7·7	+1·1	4. 27. 44·4	+1·4	
5	9·5	3	45. 31·8	+3·1	5. 19. 5·1	+2·5	
6	9·7	3	45. 33·9		6. 37. 7·6		
7	10·3	4	45. 38·6		2. 39. 10·5		
8	9·7	3	45. 52·7		8. 14. 29·5		
9	10·1	3	45. 54·4		5. 53. 17·7		
0710	10·1	3	4. 47. 31·3		7. 56. 15·6		
0711	10·1	3	4. 47. 34·2		7. 56. 55·1		
2	9·7	3	48. 18·5		8. 42. 29·7		
3	10·1	3	48. 29·3		7. 20. 45·7		
4	10·0	3	48. 35·2		5. 37. 34·6		
5	10·3	3	48. 45·5		5. 44. 20·3		
6	9·7	3	49. 3·1		6. 0. 24·2		
7	10·1	3	49. 30·3		6. 39. 31.2		
8	10·1	3	49. 31·2		8. 39. 49·5		
9	10·3	3	49. 59·5		6. 18. 45·3		
0720	9·7	3	4. 50. 12·7	+0·3	8. 15. 8·1	−1·0	

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No.	Mag.	Obs.	R.A. 1855·0.	C–S.	N.P.D. 1855·0.	C–S.	Notes.
			h m s	s	° ′ ″	″	
0721	10·0	3	4. 51. 12·3		6. 37. 29·4		
2	8·6†	3	51. 59·9	+1·0	8. 57. 41·1	−0·2	
3	10·3	3	52. 15·6		8. 28. 53·9		
4	9·7	3	52. 19·6		4. 54. 11·6		
5	8·9	3	53. 50·4	+2·2	6. 20. 36·8	−1·8	
6	9·5	3	54. 10·7		6. 11. 24·6		
7	6·5*	3	55. 5·0	+1·0	4. 28. 27·9	−3·6	
8	10·3	3	57. 11·0		5. 48. 42·3		
9	10·3	3	57. 45·8		5. 4. 13·5		
0730	10·3	3	4. 57. 47·2		7. 44. 47·3		
0731	10·0	3	4. 58. 8·4		3. 45. 16·3		
2	9·4	3	58. 19·8		6. 44. 59·1		Σ 629. The faint star not seen.
3	10·0	3	58. 56·2		7. 32. 27·6		
4	10·5	5	59. 1·9		1. 57. 13·5		A fainter star precedes.
5	9·7	4	59. 5·5		5. 55. 36·0		
6	10·1	3	59. 18·5		6. 43. 54·0		
7	9·7	3	5. 0. 15·6		8. 47. 26·3		
8	7·5†	3	0. 36·3	+1·3	6. 16. 54·1	−0·1	
9	9·3	5	0. 43·1		1. 18. 25·7		
0740	10·4	4	5. 1. 8·7		3. 10. 36·8		
0741	9·4	3	5. 2. 35·4		3. 42. 33·9		
2	8·5	3	2. 39·3	+0·3	7. 44. 38·9	−0·8	
3	9·3	5	2. 47·4		3. 6. 0·7		
4	10·3	4	3. 22·9		1. 40. 46·9		
5	9·7	3	3. 54·6		7. 27. 26·1		
6	10·0	3	4. 17·0		8. 51. 53·9		
7	9·1	3	4. 21·3		6. 46. 40·7		
8	8·8	3	4. 41·6		5. 48. 58·1		
9	10·3	3	4. 59·2		8. 2. 5·4		
0750	8·9	3	5. 5. 27·7		8. 26. 7·6		
0751	9·4	3	5. 5. 55·3		6. 59. 20·9		
2	9·7	3	6. 36·8		8. 29. 37·8		
3	10·3	4	7. 43·0		3. 54. 39·4		
4	10·3	3	7. 47·1		8. 53. 35·8		
5	10·0	3	8. 49·6		6. 41. 39·8		
6	10·3	3	9. 28·3		7. 45. 3·1		
7	10·3	3	9. 33·3		8. 54. 46·8		
8	9·1	4	9. 48·6		3. 2. 25·9		
9	10·3	3	10. 18·4		4. 3. 58·5		
0760	10·4	4	5. 11. 12·2		2. 54. 55·4		
0761	10·3	3	5. 11. 14·8		3. 9. 1·4		
2	9·0†	3	11. 40·8	−0·7	8. 43. 30·0	+0·3	
3	9·3	4	11. 58·9		1. 36. 23·9		
4	10·1	3	12. 13·8		9. 0. 8·9		
5	10·3	3	12. 53·0		6. 50. 45·2		
6	10·3	3	13. 17·5		7. 41. 0·5		
7	10·3	3	13. 18·0		5. 57. 34·1		
8	9·1	3	13. 41·8		8. 57. 55·0		
9	9·7	3	15. 6·2		8. 47. 40·3		
0770	6·5†	14	5. 15. 59·2	+0·2	4. 53. 35·0	−1·7	
0771	10·3	3	5. 16. 38·3		5. 57. 6·3		
2	10·4	4	17. 31·7		2. 47. 23·1		
3	9·7	3	17. 53·0		8. 26. 19·1		
4	9·4	3	18. 13·9		7. 24. 48·4		
5	9·7	3	18. 53·9		6. 47. 46·2		
6	8·3†	3	19. 15·3	+1·1	6. 28. 8·6	+1·0	
7	10·3	3	19. 16·3		6. 40. 3·0		
8	9·7	4	19. 16·8		1. 4. 16·4		
9	10·0	3	19. 35·6		6. 57. 0·0		
0780	10·3	3	5. 20. 14·0		5. 57. 42·5		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
0781	10·3	3	5. 20. 15·2		8. 41. 25·0		
2	7·5†	3	20. 24·4	+0·9	4. 46. 24·3	−0·4	
3	8·2†	8	22. 2·9	+1·1	2. 42. 7·1	+0·2	
4	9·1	3	23. 23·1	+2·3	5. 13. 5·3	−3·3	
5	9·7	4	23. 24·7		6. 21. 40·8		
6	10·0	3	23. 45·7		7. 19. 48·1		
7	9·7	3	23. 59·6		4. 25. 36·5		
8	10·0	3	24. 40·2		4. 4. 0·6		
9	10·3	3	25. 46·5		7. 11. 2·3		
0790	8·9	3	5. 25. 50·3		8. 16. 48·5		
0791	10·2	5	5. 25. 57·6		1. 25. 2·3		
2	10·3	3	27. 12·5		7. 5. 43·2		
3	10·0	3	27. 29·9		7. 25. 3·5		
4	10·3	3	27. 50·2		5. 5. 17·2		
5	10·0	3	28. 3·7	+1·3	4. 59. 14·1	−2·1	
6	10·3	3	28. 23·7		6. 33. 57·2		
7	8·5	4	29. 2·6	+0·5	3. 35. 21·8	−1·5	
8	8·1†	3	29. 36·5	+1·2	8. 41. 31·3	+1·4	
9	9·5	3	29. 58·8	+3·0	5. 2. 50·6	−4·4	
0800	8·0†	3	5. 30. 11·8	+1·4	7. 17. 49·5	−3·5	
0801	10·0	3	5. 30. 32·7		6. 25. 50·2		
2	9·1	3	30. 33·2		7. 40. 21·6		
3	9·7	3	30. 41·6		9. 0. 27·8		
4	10·3	4	30. 47·1		3. 41. 11·5		
5	10·1	3	31. 32·5		8. 41. 56·1		
6	9·7	3	32. 30·6		4. 44. 39·1		
7	9·7	3	32. 40·9		8. 17. 15·1		
8	10·3	3	32. 46·9		4. 18. 46·3		
9	10·1	3	33. 12·7		5. 39. 31·3		
0810	9·5	3	5. 33. 35·5	+0·6	4. 53. 49·6	−2·4	
0811	10·3	3	5. 34. 15·7		7. 12. 31·5		
2	8·9	3	34. 21·7	+1·3	5. 55. 30·6	−1·5	
3	9·7	3	35. 8·1		8. 58. 53·3		
4	10·1	4	35. 42·1		2. 49. 41·4		
5	10·3	3	35. 42·5		5. 30. 7·0		
6	9·5	3	36. 4·3		5. 58. 5·4		
7	9·7	3	36. 16·0		8. 33. 23·0		
8	9·7	3	36. 52·8		8. 28. 21·4		
9	9·7	3	36. 53·4		8. 33. 40·1		
0820	8·9	3	5. 37. 0·4	+0·7	7. 33. 57·2	−1·9	
0821	8·9	3	5. 37. 13·2	+1·3	5. 53. 32·5	−0·9	
2	10·4	6	40. 14·4		1. 22. 34·0		
3	9·4	5	40. 56·3		1. 40. 9·4		
4	9·1	4	41. 13·5		8. 29. 14·2		
5	9·7	3	41. 32·5		9. 4. 4·1		
6	8·9	3	41. 39·0	+1·9	5. 48. 55·4	−1·4	Σ 784. (1″·3). Not seen double.
7	10·5	3	41. 56·3		6. 20. 46·0		
8	10·3	3	41. 59·3		8. 22. 28·8		
9	9·7	3	42. 31·3		8. 53. 44·9		
0830	10·3	4	5. 43. 11·9		4. 1. 57·6		
0831	10·3	3	5. 43. 14·7		7. 17. 48·8		
2	10·3	4	43. 20·4		4. 41. 14·7		
3	10·3	5	43. 44·2		0. 54. 2·7		
4	9·7	3	43. 57·2		8. 54. 44·0		
5	10·3	3	44. 17·4		8. 8. 30·8		
6	9·7	3	44. 29·4		6. 42. 11·4		
7	10·3	3	44. 50·9		8. 17. 28·5		
8	10·0	3	45. 6·5		8. 56. 41·0		
9	10·3	3	47. 26·3		5. 11. 13·3		
0840	9·7	3	5. 47. 53·0		6. 40. 8·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C–S.	N.P D. 1855·0.	C–S.	Notes.
			h m s	s	° ′ ″	″	
0841	10·0	3	5· 47· 53·6		7· 57· 24·3		
2	6·8†	14	48. 0·4	+1·4	3· 14· 26·6	+2·0	
3	10·3	3	49. 11·2		8· 57· 52·7		
4	8·8	3	49. 18·6	+0·9	8. 2. 3·5	−0·8	
5	10·3	3	49. 32·6		8. 56. 57·8		
6	10·3	4	49. 42·5		3· 11. 57·8		
7	10·1	5	50. 2·1		1. 8. 48·3		
8	10·0	3	50. 2·9		4· 36. 11·6		
9	9·5	3	50. 14·0		6. 52. 59·9		
0850	10·3	3	5· 51. 19·9		6. 47. 20·9		
0851	10·0	3	5· 51. 26·3		8. 1. 5·5		
2	9·7	3	53. 51·6		6. 13. 42·7		
3	10·3	3	53. 56·3		8. 45. 3·6		
4	9·7	3	54. 21·5		8. 13. 8·6		
5	10·3	3	54. 24·1		6. 54. 13·8		
6	9·7	3	54. 25·4		4· 46. 22·2		
7	10·3	3	54. 29·1		7· 36. 15·1		
8	9·4	3	55. 0·5		8. 51. 55·0		
9	10·3	3	55. 23·4		5· 36. 43·0		
0860	9·5	3	5· 56. 5·2		7· 35· 40·5		
0861	9·7	5	5· 56. 50·7		3· 44· 37·6		
2	10·3	4	57. 2·6		0. 56. 25·0		
3	10·3	3	57. 12·0		5· 26. 48·3		
4	10·3	3	57. 39·5		7· 7· 29·3		
5	10·3	3	58. 4·7		7· 47· 15·1		
6	9·5	3	58. 5·1		6. 10. 34·9		
7	10·0	3	58. 17·6		4· 54· 20·4		
8	10·3	3	58. 19·4		5· 38. 46·5		
9	10·4	4	58. 21·1		3· 11. 3·2		
0870	10·3	3	5· 58. 22·3		7· 37· 59·5		S. p. of two.
0871	9·1	4	6. 0. 4·4		2. 36. 16·5		
2	10·3	3	0. 4·4		5· 59. 6·1		
3	10·3	3	0. 13·1		5· 35. 3·5		
4	10·3	3	0. 14·3		7· 32. 8·0		
5	10·3	3	0. 14·7		5· 24. 59·8		
6	9·1	3	1. 18·5		4· 53. 20·7		
7	10·3	4	1. 47·7		7· 7. 52·1		
8	9·9	4	2. 47·5		3· 27. 45·9		
9	9·1	3	3. 35·3	−0·4	7. 23. 20·6	−1·0	
0880	9·5	3	6. 3. 39·4		7· 4. 57·1		
0881	10·3	3	6. 4. 19·7		8. 43. 4·4		
2	10·3	3	4. 30·8		6. 49. 35·2		
3	10·3	3	4. 31·3		9. 0. 45·2		
4	10·3	4	4. 42·1		3. 2. 26·3		
5	9·7	3	4. 50·5		6. 0. 44·2		
6	10·3	3	4. 51·7		7· 59. 14·2		
7	10·5	3	5. 47·8		7· 2. 9·3		
8	10·6	4	6. 4·4		3· 3. 56·9		
9	9·0	6	6. 10·5	+0·8	3. 55. 34·6	−0·5	S. p. of a double.
0890	10·3	3	6. 6. 45·3		8. 50. 47·7		
0891	10·5	3	6. 7. 18·1		7· 23. 38·6		
2	9·7	3	7. 21·5		8. 35. 53·7		
3	9·7	3	7. 28·2		7· 56. 14·7		
4	10·2	4	7. 39·7		3· 7. 52·3		
5	10·3	4	8. 51·7		3· 54. 37·1		
6	10·3	3	9. 50·2		5· 20. 44·4		
7	8·5†	6	9. 57·5	+0·7	2. 26. 51·6	+1·9	
8	9·7	3	10. 2·1		7· 38. 9·8		
9	10·3	3	10. 8·4		5· 27· 59·7		
0900	10·3	4	6. 10. 24·5		3· 47· 9·7		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
0901	10·3	3	6. 10. 29·6		8. 46. 45·5		
2	10·0	5	11. 34·8		3. 58. 34·5		
3	9·7	4	11. 37·6		2. 42. 10·0		
4	9·7	3	12. 14·6		4. 30. 9·3		
5	9·7	3	12. 16·1		7. 0. 35·7		
6	9·5	4	12. 31·0		2. 0. 13·2		
7	9·7	3	13. 12·0		5. 37. 15·4		
8	9·7	3	13. 28·0		6. 25. 36·3		
9	9·4	3	13. 37·8	+0·6	7. 28. 44·3	−0·3	
0910	6·6†	3	6. 13. 45·9	+0·4	7. 46. 47·5	+0·6	
0911	10·1	3	6. 14. 12·6		4. 43. 26·3		
2	10·3	4	14. 44·3		1. 52. 29·4		
3	10·3	3	14. 47·8		8. 5. 31·4		
4	9·7	3	15. 1·5		8. 16. 16·6		
5	10·3	3	15. 5·7		5. 17. 16·1		
6	10·1	3	15. 22·5		5. 12. 2·8		
7	9·7	4	16. 28·0		3. 30. 15·8		
8	9·7	3	16. 45·4		8. 4. 5·3		
9	9·7	3	16. 58·4		5. 37. 53·9		
0920	9·6	5	6. 17. 17·8		3. 58. 8·8		
0921	10·3	3	6. 17. 34·4		7. 18. 23·3		
2	10·3	3	17. 35·8		8. 7. 0·1		
3	10·3	3	17. 51·3		5. 3. 16·9		
4	10·3	3	18. 5·7		7. 19. 42·7		
5	10·3	3	18. 58·8		8. 35. 57·4		
6	9·7	3	19. 46·1		7. 30. 4·7		
7	8·9	3	20. 32·7	+0·5	4. 16. 16·9	−1·9	
8	8·9	3	20. 35·7	+0·9	8. 44. 18·3	−2·0	
9	7·7†	3	20. 53·0	−0·1	5. 11. 33·9	−2·7	
0930	10·0	3	6. 21. 21·4		7. 36. 58·9		
0931	10·0	3	6. 21. 54·0		5. 6. 12·2		
2	10·1	3	22. 17·2		7. 48. 56·5		
3	9·5	3	22. 30·8		4. 57. 9·9		
4	10·3	4	23. 16·6		3. 43. 46·1		
5	9·7	4	23. 32·7		3. 59. 53·3		
6	10·3	3	23. 52·6		6. 22. 36·0		
7	9·4	3	24. 19·7		4. 58. 44·1		
8	10·3	3	24. 28·2		7. 16. 57·0		
9	10·6	3	24. 59·8		5. 34. 31·2		
0940	10·7	4	6. 25. 30·0		3. 46. 22·4		
0941	9·4	3	6. 25. 34·6		4. 38. 4·5		
2	10·6	3	26. 0·5		5. 52. 18·8		
3	9·7	3	26. 40·2		7. 16. 2·4		
4	9·1	3	27. 9·4		7. 21. 37·0		
5	10·3	3	27. 35·0		6. 35. 51·8		
6	10·1	3	27. 59·9		8. 8. 55·0		
7	10·3	3	28. 2·0		5. 51. 43·4		
8	10·3	4	28. 10·0		2. 23. 7·1		
9	10·3	3	28. 12·4		7. 19. 31·8		
0950	9·4	3	6. 29. 10·5		6. 27. 1·2		
0951	10·5	3	6. 29. 32·0		6. 36. 26·5		
2	10·3	3	29. 34·9		7. 10. 22·2		
3	9·4	3	29. 43·8		6. 12. 39·8		
4	8·9	3	30. 3·2		7. 34. 53·1		
5	9·7	3	30. 52·6	+0·1	8. 54. 52·7	−0·8	
6	5·5*	48	31. 6·6	−0·7	2. 44. 51·3	+0·9	
7	9·7	3	31. 35·3		4. 37. 58·6		
8	9·3	4	31. 47·0		3. 28. 45·6		
9	10·3	3	31. 52·9		6. 59. 15·8		
0960	9·5	3	6. 31. 58·9		7. 13. 27·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
0961	10·3	3	6. 32. 7·8		5. 53. 59·9		
2	10·3	3	32. 32·7		4. 36. 42·2		
3	10·3	3	32. 34·1		5. 55. 12·7		
4	10·3	3	32. 59·2		5. 7. 56·2		
5	10·3	3	33. 46·3		6. 38. 39·9		
6	10·3	3	34. 6·6		7. 34. 35·3		
7	10·3	3	34. 29·7		5. 48. 49·4		
8	7·9†	3	34. 58·4	+0·8	4. 2. 49·7	+3·6	
9	10·1	3	35. 29·1		6. 42. 20·4		
0970	10·3	3	6. 35. 32·6		6. 32. 57·5		
0971	9·5	3	6. 36. 23·4		8. 48. 26·7		
2	9·4	3	36. 35·0		7. 56. 51·2		
3	10·0	3	36. 58·5		5. 42. 26·0		
4	9·4	3	37. 10·8	+0·2	6. 47. 49·4	+1·3	
5	10·3	4	37. 56·3		3. 4. 14·6		
6	9·7	3	38. 23·8		8. 3. 47·0		
7	10·3	3	38. 47·8		5. 45. 1·8		
8	10·0	3	38. 55·1		8. 57. 22·7		
9	8·8†	3	39. 53·1	+0·3	6. 48. 29·6	−2·6	
0980	9·4	3	6. 40. 15·1		8. 36. 18·8		
0981	9·9	5	6. 41. 28·8		3. 30. 49·9		
2	10·4	4	41. 47·4		3. 29. 4·4		
3	10·0	3	41. 58·0		8. 46. 22·8		
4	10·3	3	42. 0·7		6. 35. 12·4		
5	9·7	3	42. 11·7		8. 13. 12·7		
6	10·3	2	42. 26·2		7. 11. 14·4		
7	9·7	4	42. 30·6		3. 3. 1·8		
8	9·7	3	42. 39·1		8. 26. 11·4		
9	10·3	1	42. 43·5		7. 11. 31·5		
0990	9·5	3	6. 42. 49·2		6. 56. 2·3		
0991	10·6	4	6. 44. 11·3		2. 34. 4·7		
2	8·0†	3	44. 45·1	−0·8	7. 20. 54·9	+1·0	
3	10·1	3	44. 55·9		5. 15. 21·9		
4	10·3	3	46. 5·9		7. 59. 29·4		
5	10·3	3	46. 13·9		8. 28. 10·0		
6	10·3	4	46. 55·6		3. 9. 32·2		There is a fainter star s. p.
7	9·3	6	47. 0·5		1. 59. 24·2		
8	9·7	3	47. 29·7		8. 46. 18·1		
9	9·7	3	47. 32·1		8. 44. 9·5		
1000	9·4	3	6. 48. 6·4	+1·1	6. 17. 0·5	−2·1	
1001	10·3	3	6. 50. 15·6		7. 43. 0·3		
2	9·7	5	50. 15·7		2. 59. 43·8		
3	9·1	5	51. 56·3	−0·2	3. 23. 12·5	−1·5	
4	10·3	4	52. 2·1		2. 48. 30·7		
5	7·7†	5	52. 53·6	0·0	3. 20. 46·3	+1·5	
6	10·3	3	53. 27·7		6. 11. 55·9		
7	10·3	3	53. 37·0		8. 29. 29·0		
8	8·5	3	53. 49·0	+0·5	8. 53. 49·3	−1·0	
9	10·1	3	53. 49·3		4. 50. 51·7		
1010	10·3	3	6. 53. 56·2		8. 35. 48·2		
1011	10·3	3	6. 53. 58·5		5. 43. 47·0		
2	10·0	3	53. 59·1		5. 28. 18·0		
3	10·2	4	54. 52·0		3. 29. 8·0		
4	9·7	3	55. 26·4		8. 51. 3·3		
5	10·3	3	55. 29·0		2. 54. 24·6		
6	10·5	3	55. 34·6		5. 25. 6·0		
7	9·7	3	55. 43·7		7. 27. 26·1		
8	9·7	3	56. 14·2		7. 56. 46·2		
9	10·3	3	56. 21·9		6. 3. 6·7		
1020	10·3	3	6. 56. 29·1		5. 12. 32·1		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
1021	6·5†	3	6. 57. 39·4	+0·5	8. 29. 35·0	−2·5	
2	10·2	4	58. 2·4		1. 48. 1·6		
3	10·3	3	58. 27·4		6. 24. 0·2		
4	9·7	3	59. 41·3	−0·4	8. 46. 13·4	+0·9	
5	10·3	3	7. 0. 5·8		4. 42. 17·6		
6	10·3	3	0. 7·8		8. 41. 52·2		
7	5·4*	3	0. 18·5	+0·8	7. 19. 27·9	0·0	Of reddish colour.
8	10·3	3	0. 44·5		8. 37. 42·0		
9	8·1†	3	1. 34·5	−0·4	5. 31. 22·6	−4·1	
1030	10·3	3	7. 2. 0·7		7. 57. 34·3		
1031	10·0	3	7. 2. 8·9		8. 54. 29·5		
2	10·5	3	2. 23·3		8. 26. 55·6		
3	10·3	3	2. 26·3		7. 4. 4·1		
4	10·1	3	3. 15·7		5. 12. 0·8		
5	7·0†	27	3. 39·6	−0·7	0. 58. 10·5	−1·5	
6	10·3	3	4. 9·2		4. 11. 3·4		
7	10·3	3	4. 16·6		8. 51. 52·7		
8	10·3	3	4. 38·4		8. 10. 9·7		
9	10·3	3	5. 31·1		8. 42. 41·0		
1040	8·5†	3	7. 5 37·0	+0·9	7. 43. 29·7	−3·2	
1041	10·1	3	7. 5. 52·5		6. 48. 4·6		
2	10·3	3	5. 58·0		8. 1. 57·9		
3	10·2	4	6. 1·9		3. 9. 5·6		
4	9·7	3	7. 41·9		7. 11. 16·0		
5	7·2†	3	8. 2·9	+0·8	8. 49. 19·6	−1·8	
6	9·7	5	8. 21·8		1. 14. 35·9		
7	10·3	3	9. 7·7		6. 19. 46·6		
8	10·3	3	9. 13·8		4. 33. 25·4		
9	10·2	4	9. 50·3		2. 22. 58·6		
1050	8·8	3	7. 10. 10·4	−0·4	7. 2. 27·6	+1·4	
1051	9·5	3	7. 10. 17·7		6. 58. 1·6		
2	10·3	4	10. 54·0		2. 11. 42·2		
3	10·1	3	11. 40·5		6. 11. 44·6		
4	10·3	3	12. 7·2		5. 53. 12·3		
5	10·5	3	12. 19·8		7. 8. 4·9		
6	10·3	3	12. 31·1		7. 55. 27·9		
7	9·7	3	12. 42·2		4. 27. 11·7		
8	10·3	4	13. 8·1		4. 2. 0·8		
9	10·3	3	13. 30·7		4. 34. 23·0		
1060	10·3	3	7. 14. 2·1		0. 59. 2·6		
1061	10·2	4	7. 14. 15·1		4. 11. 31·2		
2	10·0	3	14. 39·9		6. 51. 34·4		
3	10·0	3	14. 42·5		5. 6. 17·4		
4	9·6	4	15. 0·7		4. 5. 32·6		
5	9·7	4	15. 7·1		5. 11. 55·2		
6	8·9†	3	15. 33·6	+1·2	6. 36. 56·7	−1·9	
7	10·3	3	15. 36·8		7. 7. 21·6		
8	10·3	3	15. 41·0		7. 1. 1·1		
9	10·3	3	15. 51·2		5. 29. 48·3		
1070	10·3	3	7. 17. 22·2		6. 26. 2·7		
1071	10·1	3	7. 17. 34·7		5. 53. 14·3		
2	9·7	3	17. 39·6		6. 42. 38·9		
3	10·3	3	17. 41·9		5. 12. 46·4		
4	9·7	3	18. 2·7		6. 7. 2·7		
5	9·7	3	18. 11·8		8. 25. 40·0		
6	10·3	3	18. 18·0		7. 33. 57·5		
7	8·0†	3	18. 45·2	+0·9	7. 59. 54·3	+1·2	
8	9·5	3	20. 11·5		6. 57. 15·8		
9	10·3	3	20. 45·0		5. 50. 6·9		
1080	10·3	3	7. 21. 54·4		6. 46. 33·9		

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No.	Mag.	Obs.	R.A. 1855·0.	C − S.	N.P.D. 1855·0.	C − S.	Notes.
			h m s	s	° ′ ″	″	
1081	10·1	4	7. 22. 1·8		2. 56. 36·5		
2	9·5	4	22. 3·0		3. 17. 13·5		
3	10·3	3	22. 3·7		6. 4. 21·8		
4	10·3	3	22. 8·2		6. 45. 58·2		
5	9·5	3	22. 46·0		6. 38. 5·2		
6	10·5	3	23. 10·6		1. 9. 23·6		
7	10·3	3	23. 13·5		7. 32. 36·7		
8	10·3	3	23. 24·8		9. 1. 39·6		
9	9·7	6	24. 41·8		1. 12. 16·0		
1090	10·3	3	7. 25. 32·8		6. 39. 39·5		
1091	9·7	3	7. 25. 44·6		5. 42. 48·1		
2	10·6	3	26. 6·8		5. 40. 18·4		
3	10·3	4	27. 2·6		3. 16. 41·5		
4	9·6	4	27. 33·3		3. 9. 54·5		
5	9·7	5	27. 49·9	s	0. 58. 22·1	″	
6	8·9	3	28. 39·8	+1·4	5. 43. 5·2	−0·3	
7	8·4	5	28. 43·3	+1·0	3. 13. 38·0	−0·5	
8	8·9†	3	28. 46·3	+0·2	4. 58. 16·2	+1·9	
9	10·3	3	29. 6·6		5. 51. 16·4		
1100	10·3	3	7. 29. 22·3		8. 34. 45·8		
1101	10·3	3	7. 29. 31·0		7. 54. 51·3		
2	10·0	3	29. 53·4		7. 49. 23·8		
3	9·5	3	29. 58·1		5. 44. 38·5		
4	9·7	3	30. 0·4		5. 29. 49·4		
5	7·4†	3	30. 22·0	−0·1	8. 17. 32·7	+0·6	
6	10·3	4	30. 38·0		3. 8. 48·8		
7	10·1	3	31. 12·2		4. 51. 57·3		
8	10·0	3	31. 38·6		7. 27. 53·1		
9	10·0	3	32. 9·2		6. 47. 6·5		
1110	9·9	4	7. 32. 42·3		2. 0. 0·9		
1111	10·3	3	7. 32. 44·1		6. 33. 17·9		
2	10·3	3	33. 14·5		7. 45. 21·1		
3	7·7†	3	33. 36·7	+1·3	5. 12. 40·0	0·0	
4	10·3	3	33. 37·1		6. 44. 3·2		
5	10·3	3	33. 55·4		7. 31. 28·0		The second of two.
6	10·5	3	34. 26·3		7. 51. 5·5		
7	10·1	4	34. 46·3		3. 36. 34·7		
8	10·3	3	35. 18·0		7. 48. 53·6		
9	10·3	3	35. 18·6		6. 57. 43·7		
1120	9·7	3	7. 35. 41·3		8. 22. 49·3		
1121	10·3	3	7. 36. 23·6		8. 54. 6·5		
2	10·3	3	36. 26·9		6. 10. 9·0		
3	7·6†	4	37. 8·7	−0·5	3. 54. 0·7	+1·1	
4	10·3	4	37. 30·8		3. 29. 18·2		
5	9·7	3	39. 36·5		7. 12. 10·9		
6	10·3	3	40. 47·1		7. 47. 51·9		
7	6·3*	3	41. 36·7	+1·1	5. 32. 20·6	−0·8	
8	8·9	4	41. 42·7	+0·5	7. 53. 54·4	+1·2	
9	10·3	3	41. 52·7		7. 24. 16·8		
1130	9·7	3	7. 42. 5·1		5. 17. 22·5		
1131	9·7	2	7. 42. 8·9		7. 55. 27·0		
2	10·3	3	42. 28·3		8. 22. 56·9		The second of two.
3	10·0	3	42. 31·4		7. 55. 6·2		
4	9·7	3	42. 51·8		5. 34. 44·4		
5	10·6	4	43. 9·9		1. 45. 16·7		
6	9·7	3	43. 10·6		7. 7. 49·7		
7	10·3	3	43. 12·4		7. 20. 2·0		
8	10·1	3	43. 33·9		8. 55. 32·7		
9	10·3	3	43. 37·2		8. 38. 39·8		
1140	10·2	5	7. 44. 45·0		1. 39. 54·0		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
1141	9·7	3	7. 45. 22·9		7. 31. 56·2		
2	10·0	3	45. 41·8	s	4. 27. 31·2	″	
3	8·5	3	46. 18·2	+1·0	8. 32. 46·7	−1·4	
4	8·0†	3	46. 27·4	+0·8	7. 50. 15·4	−0·6	
5	10·3	3	47. 10·2		6. 40. 4·5		
6	10·3	3	48. 13·7		8. 21. 47·5		
7	9·7	3	48. 16·5		7. 46. 40·1		
8	9·7	3	48. 47·1		7. 37. 23·5		
9	10·3	4	48. 51·0		1. 13. 1·7		
1150	10·2	4	7. 49. 38·0		2. 56. 1·6		
1151	10·3	3	7. 49. 46·0		8. 15. 15·4		
2	10·1	3	50. 21·9		5. 38. 31·1		
3	8·7†	3	50. 40·8	+0·8	5. 33. 23·7	−2·8	
4	10·5	3	51. 55·2		7. 11. 35·3		
5	10·3	3	53. 4·3		3. 51. 39·8		
6	9·7	4	53. 23·9		3. 18. 37·4		
7	9·7	4	53. 34·4		3. 10. 44·8		
8	10·0	3	53. 36·0		5. 25. 1·5		
9	7·8†	3	53. 42·3	+0·8	6. 28. 6·9	+1·2	
1160	9·7	3	7. 54. 12·2		5. 25. 13·0		
1161	8·9†	3	7. 55. 4·7		4. 18. 29·1		
2	10·3	3	55. 9·9		5. 16. 46·0		
3	10·3	3	55. 25·2		6. 49. 56·4		
4	10·3	3	55. 55·2		6. 9. 40·9		
5	6·3*	3	56. 2·2	−0·2	7. 7. 57·9	−0·2	
6	9·7	3	56. 4·3		6. 48. 18·1		
7	9·7	3	56. 16·7		4. 44. 50·3		
8	10·0	3	57. 29·3		5. 19. 29·1		
9	10·2	5	57. 37·7		1. 58. 15·3		
1170	10·3	3	7. 57. 38·1		6. 6. 46·5		
1171	10·4	4	7. 57. 56·9		3. 50. 43·4		
2	10·1	3	58. 31·3		7. 58. 15·7		
3	10·3	3	58. 39·7		4. 44. 57·5		
4	9·7	3	59. 12·8		6. 34. 10·5		
5	10·1	3	59. 23·9		6. 11. 49·2		
6	10·3	3	59. 28·8		7. 17. 7·4		
7	9·7	3	59. 43·6		6. 23. 11·9		
8	10·1	3	8. 0. 3·2		7. 23. 11·4		
9	9·7	3	0. 29·4		7. 57. 7·8		
1180	10·3	4	8. 0. 35·9		2. 48. 19·1		
1181	10·0	3	8. 1. 41·5		7. 26. 53·9		
2	10·3	4	2. 25·2		2. 48. 7·6		
3	9·7	5	2. 52·0		2. 5. 43·9		
4	9·1	3	3. 1·8		5. 19. 19·1		
5	10·5	3	3. 2·0		6. 3. 47·7		
6	9·7	3	3. 36·1		9. 1. 1·9		
7	9·7	3	3. 40·4		9. 2. 58·5		
8	9·0†	3	3. 47·6	+0·3	5. 5. 20·6	−2·5	
9	9·9	4	4. 46·6		3. 39. 51·1		
1190	8·6†	4	8. 4. 51·9	+1·0	3. 43. 26·7	+1·3	
1191	9·7	3	8. 5. 44·3		7. 4. 57·8		
2	10·3	3	6. 1·4		7. 32. 41·2		
3	8·9	4	6. 9·6	+0·3	2. 36. 46·0	+0·8	
4	9·1	4	8. 24·7	+1·2	2. 50. 6·4	−1·4	
5	10·3	4	9. 3·5		2. 42. 45·5		
6	9·7	3	9. 4·2		4. 48. 48·3		
7	8·9	3	9. 28·0		7. 22. 38·1		
8	10·3	3	9. 29·7		7. 40. 44·2		
9	10·1	3	9. 56·2		5. 36. 53·6		
1200	10·3	3	8. 10. 54·5		5. 26. 12·4		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
1201	10·3	3	8. 11. 7·6		7. 4. 40·5		
2	10·3	4	11. 41·3		3. 57. 50·9		
3	10·3	3	12. 14·1		5. 13. 42·7		
4	9·7	3	12. 38·4		5. 23. 33·7		
5	7·9†	3	12. 40·6	−2·7	4. 26. 50·8	+1·9	
6	9·5	6	12. 48·8	−0·1	2. 38. 24·2	+1·5	
7	10·0	3	12. 59·1		6. 10. 24·9		
8	10·3	3	13. 15·3		7. 48. 57·5		
9	10·3	3	13. 35·6		8. 10. 22·6		
1210	9·6	4	8. 13. 47·8		3. 53. 11·7		
1211	8·9	3	8. 13. 49·6		6. 54. 10·5		
2	10·3	3	13. 59·4		6. 14. 22·9		
3	8·6†	3	14. 36·6	−0·6	4. 18. 21·2	−1·2	
4	10·3	4	15. 35·0		1. 44. 30·3		
5	9·7	3	15. 40·4		7. 30. 12·3		
6	10·0	3	16. 59·2		6. 50. 43·5		
7	10·3	3	17. 21·0		4. 41. 6·8		
8	9·7	3	17. 27·3		6. 16. 32·3		
9	10·1	3	17. 50·2		6. 5. 21·8		
1220	9·1	3	8. 18. 34·7	+0·7	7. 10. 19·8	+0·2	
1221	10·3	3	8. 19. 4·2		7. 54. 19·2		
2	7·3†	3	19. 43·6	+0·2	7. 15. 33·2	−0·3	
3	10·6	4	21. 15·3		1. 38. 48·0		
4	10·1	3	21. 26·1		6. 45. 3·5		
5	10·3	3	21. 34·0		7. 50. 18·4		
6	10·3	3	21. 45·8		8. 47. 4·5		
7	10·3	3	22. 2·6		9. 4. 1·5		
8	10·5	3	22. 9·9		6. 33. 44·9		
9	9·7	3	22. 52·8		8. 28. 6·8		
1230	9·9	4	8. 22. 55·0		3. 49. 27·7		
1231	10·6	3	8. 23. 18·6		8. 2. 19·9		
2	10·0	3	24. 8·3		6. 42. 43·4		
3	7·8†	3	25. 5·4	−2·4	5. 35. 9·4	+2·8	
4	10·2	4	25. 8·0		3. 1. 47·1		
5	9·7	3	25. 38·1		5. 55. 48·5		
6	10·0	5	25. 44·9		2. 40. 33·7		
7	10·3	3	25. 48·4		5. 25. 50·0		
8	9·1	3	26. 31·8	−0·1	8. 59. 46·5	+0·6	
9	10·3	3	26. 37·6		7. 32. 54·7		
1240	9·7	3	8. 26. 43·0		4. 41. 24·1		
1241	10·1	4	8. 27. 29·7		2. 5. 15·9		
2	10·1	3	27. 42·2		5. 31. 3·4		
3	9·1	3	27. 51·4	−0·2	9. 1. 2·4	−0·3	
4	9·7	3	27. 57·5		7. 7. 7·3		
5	10·2	4	28. 16·7		2. 34. 46·9		
6	10·3	3	28. 23·9		6. 31. 6·7		
7	10·3	3	28. 49·3		7. 11. 16·5		
8	10·3	3	29. 48·3		3. 25. 11·5		A fainter star follows.
9	10·3	3	30. 31·4		6. 36. 34·4		
1250	10·1	3	8. 32. 5·4		6. 28. 54·7		
1251	10·3	3	8. 32. 15·9		8. 46. 0·7		
2	10·5	3	32. 41·1		5. 5. 12·1		
3	9·5	3	32. 51·9		5. 11. 48·5		
4	7·7†	4	33. 1·5	+1·3	6. 44. 35·1	−2·0	
5	10·3	4	33. 3·7		1. 58. 23·3		
6	9·7	3	33. 17·8		7. 18. 37·8		
7	9·7	3	33. 19·5		7. 38. 2·6		
8	10·0	3	33. 33·6		8. 43. 40·5		
9	8·4†	4	33. 40·9	+0·1	3. 53. 9·1	+0·3	
1260	9·7	3	8. 34. 14·8		7. 1. 58·3		

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No.	Mag.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s	s	° ′ ″	″	
1261	8·0†	3	8. 35. 10·6	+0·3	8. 10. 36·5	+0·1	
2	7·4†	4	35. 46·9	+1·1	6. 42. 41·6	−1·2	
3	9·7	4	35. 50·6		3. 17. 56·2		
4	10·3	3	35. 54·1		5. 28. 46·6		
5	9·5	3	36. 26·4		8. 39. 55·5		
6	10·3	3	36. 29·9		6. 56. 58·6		
7	10·3	3	36. 47·1		3. 30. 54·5		
8	8·9†	3	36. 56·2	+1·5	4. 44. 41·9	−1·0	
9	10·3	3	37. 11·8		4. 29. 27·7		
1270	10·5	3	8. 37. 27·4		4. 36. 47·2		
1271	10·0	3	8. 38. 23·2		5. 25. 38·5		
2	8·9†	3	40. 2·7	+0·6	6. 16. 4·1	+0·5	
3	10·3	4	40. 12·1		3. 2. 50·7		
4	9·7	3	40. 33·1		7. 28. 34·5		
5	10·5	3	40. 58·1		8. 50. 2·3		
6	10·3	3	41. 58·0		7. 3. 49·4		
7	9·7	4	42. 12·0		3. 50. 21·6		
8	9·1	3	42. 34·2		4. 57. 4·9		
9	10·5	3	42. 43·1		5. 0. 36·1		
1280	9·9	4	8. 43. 12·8		2. 43. 15·5		
1281	10·0	3	8. 43. 25·7		8. 7. 46·8		
2	10·1	4	43. 50·5		3. 53. 50·2		
3	10·3	3	43. 58·6		8. 22. 3·7		
4	10·3	3	43. 58·7		6. 39. 8·9		
5	9·7	3	43. 58·7		4. 52. 46·2		
6	6·2*	3	44. 17·8	+1·4	5. 14. 53·3	−1·8	
7	10·3	5	44. 35·9		1. 4. 36·5		
8	9·7	3	44. 42·9		5. 46. 3·0		
9	9·7	3	45. 2·6	−0·3	6. 18. 22·8	−2·2	
1290	9·3	4	8. 45. 13·4		3. 31. 14·2		
1291	8·5†	3	8. 45. 24·8	−0·4	8. 23. 38·9	0·0	N. p. of a double. Σ 1284.
2	10·3	4	45. 34·7		3. 24. 31·9		
3	10·6	3	45. 50·4		4. 32. 33·9		
4	10·3	3	46. 2·6		5. 6. 57·2		
5	9·1	3	46. 7·0	+0·9	8. 20. 33·3	+0·5	
6	9·0†	3	47. 8·7	+0·9	5. 47. 15·8	−0·5	
7	9·7	3	47. 58·4		6. 5. 4·3		
8	9·5	3	48. 12·2		6. 32. 32·1		
9	10·3	3	48. 23·9		8. 42. 56·2		
1300	10·3	3	8. 48. 36·5		8. 5. 29·0		
1301	7·0†	3	8. 49. 13·0	+1·5	8. 35. 54·0	−1·6	
2	10·3	4	49. 21·0		4. 0. 37·2		
3	10·3	3	49. 59·4		8. 16. 49·9		
4	9·7	3	50. 11·8		5. 53. 4·2		
5	10·1	3	50. 41·1		7. 28. 46·5		
6	9·7	3	51. 31·4		8. 18. 6·7		
7	10·3	3	52. 50·8		4. 35. 2·1		The second of two.
8	10·0	3	53. 18·2		5. 34. 38·0		
9	9·7	3	53. 21·3		5. 5. 25·9		
1310	10·3	3	8. 53. 32·3		7. 42. 25·2		
1311	9·4	3	8. 54. 4·3	+0·5	8. 24. 48·2	−0·9	
2	10·3	3	54. 12·1		6. 16. 36·7		
3	9·7	3	54. 30·9		8. 52. 57·2		
4	10·3	3	54. 35·4		6. 12. 33·0		
5	10·3	3	54. 40·4		4. 48. 48·5		
6	8·2†	3	54. 53·3	+0·6	6. 47. 43·3	+0·3	
7	10·3	4	55. 0·2		2. 48. 47·0		
8	9·1	3	56. 11·7	+0·8	7. 3. 57·0	−2·7	
9	10·3	3	56. 45·9		6. 31. 7·5		
1320	8·9†	3	8. 57. 2·8	−1·3	4. 11. 23·6	−0·6	

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
1321	9·7	3	8. 57. 42·5		8. 45. 30·9		
2	9·0†	4	58. 42·9	+0·9	6. 29. 39·2	−1·1	
3	9·3	5	58. 54·9		3. 30. 45·0		
4	10·3	3	58. 55·9		8. 0. 48·0		Σ 1304.
5	9·7	3	59. 3·8		8. 1. 5·4		Σ 1304.
6	10·3	3	59. 59·6		7. 39. 0·0		
7	10·3	3	9. 0. 1·3		8. 29. 41·6		
8	10·5	3	0. 29·1		6. 41. 1·2		
9	10·3	4	0. 42·0		3. 37. 39·8		
1330	8·0†	6	9. 0. 47·9	−0·4	2. 30. 52·7	−2·6	
1331	10·0	3	9. 0. 48·6		5. 51. 44·3		
2	10·5	3	1. 6·2		4. 33. 29·7		The second of three.
3	10·6	3	1. 7·7		6. 25. 8·8		
4	10·0	3	1. 29·9		8. 32. 41·6		
5	10·3	3	2. 11·3		5. 26. 47·6		
6	9·7	5	2. 17·5		1. 35. 42·7		
7	10·3	3	3. 5·0		7. 8. 4·8		
8	10·0	3	3. 25·8		8. 7. 0·2		
9	8·8†	3	3. 28·7	+0·3	6. 42. 4·1	−0·4	
1340	10·3	4	9. 3. 37·0		3. 56. 21·5		
1341	8·9	3	9. 4. 2·6	+2·4	7. 31. 16·3	−0·2	
2	9·7	3	4. 24·3		7. 6. 44·8		
3	10·3	3	4. 42·1		8. 13. 10·9		
4	10·3	4	4. 49·1		1. 40. 54·9		
5	10·5	3	5. 2·5		4. 57. 36·5		
6	9·7	3	5. 6·8		6. 15. 41·2		
7	8·5†	3	5. 51·5	+8·4	5. 38. 22·3	−0·6	
8	10·1	3	6. 9·2		6. 26. 14·0		
9	9·1	3	6. 12·8	+0·7	8. 50. 38·2	−1·1	
1350	10·3	3	9. 6. 26·1		8. 43. 16·0		
1351	10·3	3	9. 6. 57·7		6. 9. 7·8		
2	9·7	3	7. 23·2		8. 47. 18·0		
3	9·7	3	7. 26·7		6. 9. 3·8		
4	10·5	3	7. 45·1		6. 30. 3·6		
5	10·5	3	7. 55·6		6. 41. 42·4		
6	10·6	3	8. 15·5		5. 18. 58·5		S. f. of two.
7	8·8†	3	8. 32·0	−0·5	4. 16. 33·3	+1·3	
8	10·3	3	8. 47·8		5. 51. 19·5		
9	10·3	4	9. 12·7		1. 23. 37·0		
1360	9·7	3	9. 9. 32·2		7. 17. 16·8		
1361	8·2†	5	9. 9. 44·8	0·0	2. 14. 29·0	−0·6	
2	10·3	3	9. 58·2		7. 6. 35·4		
3	9·7	3	11. 51·6		5. 49. 17·5		
4	10·3	3	12. 0·3		4. 7. 0·7		
5	9·7	3	12. 8·5		7. 52. 0·6		
6	10·3	3	12. 9·1		7. 20. 6·6		
7	10·3	3	12. 23·3		5. 57. 54·3		
8	10·3	3	12. 27·3		7. 55. 39·8		
9	7·4†	3	12. 28·2	+1·5	6. 26. 40·2	−0·2	
1370	10·3	3	9. 12. 29·1		6. 32. 27·0		
1371	10·3	3	9. 12. 34·5		6. 38. 47·4		
2	10·1	3	12. 59·8		7. 47. 5·0		
3	10·3	3	13. 2·2		8. 4. 5·2		
4	9·7	3	14. 10·4		9. 2. 3·7		
5	10·3	3	14. 13·0		8. 43. 23·1		
6	8·9	5	14. 29·1	+0·1	2. 54. 21·3	−0·8	
7	9·5	3	14. 37·3		6. 56. 4·6		
8	9·7	3	14. 50·7		8. 39. 30·5		
9	9·5	3	15. 9·5	−0·1	5. 31. 22·3	−2·9	
1380	10·3	3	9. 15. 43·7		8. 47. 47·9		

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No.	Mag.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s	s	° ′ ″	″	
1381	4·3*	3	9. 16. 2·7	+0·8	8. 2. 21·8	+0·3	
2	10·3	3	16. 44·1		7. 15. 28·9		
3	10·3	3	16. 45·7		6. 25. 44·3		
4	10·3	3	18. 11·3		8. 44. 14·8		
5	10·3	3	18. 18·5		8. 15. 47·1		
6	9·7	3	18. 28·7		9. 2. 42·3		
7	7·8†	3	19. 2·5	+1·0	6. 59. 38·5	−1·1	
8	9·7	5	19. 49·5		2. 3. 30·2		
9	10·3	3	20. 48·1		8. 5. 55·3		
1390	10·3	3	9. 21. 34·8		8. 59. 37·5		
1391	10·3	3	9. 21. 55·6		8. 20. 28·6		
2	9·7	3	22. 3·2		7. 47. 5·0		
3	8·2†	3	22. 13·1	−1·0	5. 33. 44·9	−1·7	
4	9·5	3	22. 13·7		8. 41. 28·5		
5	10·3	3	22. 15·3		8. 52. 53·9		
6	10·3	3	22. 15·8		5. 10. 30·6		
7	9·5	3	22. 31·6		5. 0. 4·8		
8	9·6	5	22. 58·6	−0·2	2. 10. 52·8	+1·6	
9	9·1	3	23. 0·5	−0·9	5. 36. 17·8	−4·2	
1400	10·3	3	9. 23. 2·7		8. 51. 51·4		
1401	10·3	3	9. 23. 17·7		8. 41. 25·3		
2	9·1	3	23. 46·8	+0·5	5. 37. 46·8	−1·2	
3	10·5	3	23. 47·7		4. 40. 11·6		
4	9·5	3	23. 50·5		7. 45. 0·3		
5	10·3	4	23. 53·6		3. 12. 30·7		
6	10·0	3	24. 22·0		7. 20. 50·3		
7	8·5†	3	24. 32·8	+1·9	6. 0. 53·9	−2·4	
8	8·5†	3	25. 12·0		5. 49. 58·0		
9	10·3	3	25. 14·8		5. 51. 15·9		
1410	8·3†	3	9. 25. 24·0	+2·8	4. 51. 21·9	+2·0	
1411	10·3	3	9. 27. 6·2		8. 41. 20·1		
2	10·0	3	27. 7·4		5. 9. 58·0		
3	10·2	4	27. 15·5		1. 16. 9·0		
4	8·5†	3	28. 23·3	+0·5	4. 57. 16·0	+1·0	
5	10·3	3	28. 24·0		6. 22. 31·9		
6	10·6	3	28. 39·0		6. 46. 55·8		
7	10·3	3	29. 49·7		5. 33. 11·2		
8	7·7†	10	29. 53·5	0·0	2. 44. 22·7	+0·1	
9	10·0	3	30. 5·2		6. 40. 29·6		
1420	10·3	1	9. 30. 42·2		3. 54. 9·7		
1421	9·7	3	9. 30. 47·2		8. 22. 51·3		
2	10·0	3	31. 46·0		6. 54. 27·6		
3	10·3	3	31. 54·3		7. 18. 25·2		
4	10·0	3	32. 3·8		7. 19. 8·3		
5	10·3	3	32. 11·8		7. 14. 33·8		
6	10·5	3	32. 34·0		4. 25. 51·4		
7	9·4	3	32. 58·4		6. 29. 4·7		
8	10·3	3	33. 31·7		7. 49. 46·6		
9	10·3	4	33. 57·9		3. 38. 26·9		
1430	10·3	3	9. 34. 33·7		8. 17. 9·9		
1431	10·3	3	9. 35. 18·8		6. 27. 4·9		
2	10·0	3	35. 50·5		7. 34. 7·9		
3	10·3	3	35. 55·9		7. 47. 1·5		
4	9·7	3	36. 18·8		6. 46. 49·1		
5	8·7†	3	36. 30·4	−0·9	5. 50. 31·0	−0·7	
6	10·5	3	36. 40·6		6. 57. 2·0		
7	10·3	3	38. 34·8		8. 33. 20·4		
8	10·3	3	38. 52·7		8. 49. 25·9		
9	10·1	3	39. 4·2		7. 4. 3·0		
1440	10·3	3	9. 39. 14·3		8. 12. 41·2		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
1441	9·7	3	9. 39. 15·0		6. 10. 19·2		
2	10·0	3	39. 56·8		5. 41. 16·5		
3	9·7	3	40. 45·5		6. 57. 20·5		
4	8·5†	3	41. 2·6	+1·4	8. 56. 18·8	−1·7	Σ 1380. (1″·7).
5	10·3	3	41. 7·7		7. 2. 28·2		
6	9·7	3	42. 16·8		5. 24. 28·9		
7	9·7	3	42. 44·8	+0·3	8. 54. 38·6	−0·7	
8	10·3	3	42. 54·4		8. 36. 26·2		
9	10·3	4	43. 50·1		3. 21. 30·3		
1450	10·3	3	9. 43. 56·2		7. 47. 13·6		
1451	7·2†	3	9. 44. 39·6	+0·7	5. 23. 16·9	−0·7	
2	10·6	3	44. 44·5		6. 5. 4·0		
3	10·1	3	45. 11·5		5. 11. 14·9		
4	10·3	3	45. 14·8		7. 39. 22·6		
5	10·3	3	45. 20·0		6. 52. 55·6		
6	10·3	4	45. 50·2		1. 13. 10·3		
7	10·3	3	47. 23·5		6. 56. 5·9		
8	8·0†	4	47. 25·7	+0·2	3. 27. 58·4	+0·2	
9	10·5	3	47. 29·7		5. 47. 28·4		
1460	8·2†	16	9. 47. 45·2	+0·1	2. 0. 37·5	+1·4	
1461	10·1	3	9. 47. 45·6		8. 36. 45·6		
2	10·1	3	47. 49·5		8. 36. 45·6		
3	10·3	4	48. 3·1		3. 54. 45·3		
4	10·3	3	48. 11·8		6. 19. 14·4		
5	10·3	4	48. 56·8		3. 35. 52·4		
6	10·3	3	50. 48·6		8. 29. 3·3		
7	10·3	3	51. 6·8		7. 1. 14·6		
8	9·7	3	51. 19·1		4. 50. 59·0		
9	10·0	3	51. 46·9		8. 57. 2·1		
1470	9·7	3	9. 52. 10·8		6. 14. 45·0		
1471	10·3	3	9. 52. 38·2		7. 12. 59·9		
2	9·1	4	52. 39·9		3. 51. 15·1		
3	10·3	4	52. 42·7		3. 17. 29·4		
4	7·8†	3	53. 4·5	+0·9	6. 53. 35·5	−0·9	
5	9·7	3	53. 27·4		6. 38. 58·3		
6	9·7	3	53. 36·5		6. 13. 7·1		
7	10·3	4	54. 10·7		3. 12. 57·3		
8	9·0	4	54. 43·2		4. 0. 16·0		
9	10·3	3	54. 58·5		6. 18. 16·0		
1480	10·3	3	9. 55. 57·3		5. 36. 26·7		
1481	10·3	3	9. 56. 14·8		8. 0. 3·5		
2	10·3	3	56. 51·3		5. 55. 18·2		
3	9·7	3	56. 57·8		8. 30. 43·7		
4	10·3	3	57. 10·8		7. 48. 57·3		
5	10·3	3	57. 17·4		7. 27. 50·5		
6	10·1	3	57. 25·4		4. 50. 46·8		
7	9·4	5	58. 12·3		2. 28. 8·8		
8	10·3	3	58. 45·1		8. 0. 9·7		
9	10·3	3	59. 7·7		8. 21. 49·7		
1490	8·7	5	9. 59. 32·8	+2·1	1. 23. 58·0	+0·3	
1491	9·7	3	9. 59. 54·3		8. 45. 55·3		
2	10·3	3	10. 0. 6·7		6. 37. 42·2		
3	10·3	4	0. 26·0		2. 51. 26·0		
4	8·9	4	0. 34·2	+1·0	3. 45. 2·1	−0·2	
5	10·3	3	0. 57·2		8. 12. 28·6		
6	9·5	3	1. 23·3		4. 24. 59·8		
7	10·3	3	2. 10·3		6. 19. 30·8		
8	10·3	3	2. 29·2		7. 25. 45·2		
9	8·9	3	2. 29·4		4. 22. 24·4		
1500	9·7	3	10. 2. 34·7		6. 57. 29·8		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
1501	10·8	1	10. 3. 9·8		2. 53. 15·7		
2	10·3	3	3. 16·3		8. 55. 30·8		
3	7·5†	3	5. 21·4	+0·7	6. 28. 24·3	−1·2	
4	10·3	4	5. 33·5		3. 12. 27·6		
5	10·5	3	5. 47·6		5. 5. 47·3		
6	10·3	3	5. 48·8		7. 29. 36·2		
7	10·3	3	5. 52·5		8. 15. 8·7		
8	9·7	2	6. 7·6		6. 32. 21·5		
9	9·7	3	6. 14·3		4. 33. 4·3		
1510	9·7	4	10. 6. 22·2		6. 41. 46·2		
1511	10·2	4	10. 6. 24·3		3. 59. 33·3		
2	10·3	3	6. 55·4		7. 9. 0·4		
3	10·0	3	7. 2·8		5. 6. 59·1		
4	10·0	3	7. 20·8		6. 26. 40·7		
5	10·3	3	7. 26·9		5. 17. 2·1		
6	5·7*	3	7. 49·2	−2·9	5. 0. 56·8	−0·6	
7	9·6	4	7. 59·1		2. 54. 40·4		
8	9·1	3	8. 6·6		6. 4. 11·9		
9	8·3†	4	8. 30·9	+1·6	3. 12. 19·7	−1·4	The brighter star of a double. ≤ 1410.
1520	9·7	3	10. 8. 32·0		7. 53. 7·2		
1521	9·5	3	10. 8. 43·7		6. 54. 46·3		
2	10·3	3	8. 43·7		5. 22. 47·8		
3	9·7	3	8. 45·0		6. 0. 28·3		
4	8·1†	3	9. 3·2	+1·9	7. 45. 52·1	−2·0	
5	9·0†	3	9. 23·2	+1·8	7. 59. 52·0	+0·7	
6	9·7	3	9. 28·2		5. 47. 43·1		
7	10·3	3	9. 53·6		8. 55. 20·1		
8	10·3	3	9. 55·2		8. 35. 13·3		
9	9·1	3	10. 3·7	+0·5	5. 42. 36·0	−0·7	
1530	10·1	3	10. 10. 14·8		8. 31. 29·5		
1531	10·2	4	10. 10. 39·3		1. 57. 49·7		
2	10·0	3	11. 20·6		6. 45. 43·0		
3	8·8†	5	11. 30·7	+2·0	4. 1. 52·2	−1·8	
4	10·3	3	11. 31·8		6. 36. 46·2		
5	10·2	4	11. 36·8		2. 55. 53·8		
6	8·2†	3	11. 48·4	+1·1	8. 4. 49·5	−1·6	
7	8·3†	3	12. 14·2	+1·4	6. 35. 46·2	−0·8	
8	5·3*	3	12. 58·2	−0·6	6. 42. 26·4	−1·8	
9	10·3	3	13. 18·8		8. 32. 38·0		
1540	8·0†	3	10. 13. 26·6	+1·6	4. 51. 51·0	−1·4	
1541	10·1	3	10. 13. 45·1		7. 35. 33·6		
2	10·3	3	14. 28·6		4. 25. 35·0		
3	10·3	5	14. 52·9		4. 7. 21·7		
4	9·7	3	14. 53·7		8. 15. 18·9		
5	9·7	3	15. 1·1		7. 16. 52·7		
6	10·3	3	15. 4·2		4. 57. 7·0		
7	9·7	3	15. 23·6		7. 39. 9·7		A close double.
8	9·9	6	16. 31·8		2. 36. 34·1		
9	10·4	4	16. 35·8		1. 3. 39·7		
1550	10·0	3	10. 16. 37·1		8. 20. 53·3		
1551	10·0	3	10. 16. 42·1		6. 9. 22·4		
2	10·3	3	16. 43·1		7. 54. 15·5		
3	10·3	3	16. 53·2		6. 40. 19·2		
4	10·1	3	17. 15·3		6. 53. 19·1		
5	10·1	3	17. 22·8		6. 50. 58·1		
6	8·1†	3	17. 51·5	+1·4	7. 14. 2·8	−3·3	
7	10·3	3	18. 40·1		8. 8. 51·0		
8	6·9†	3	20. 49·2	+0·7	8. 45. 39·5	−0·5	
9	10·5	3	22. 3·3		5. 42. 10·7		
1560	9·7	3	10. 22. 17·8	+2·6	4. 37. 49·0	−0·3	

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
1561	9·7	3	10. 22. 20·9		6. 20. 54·5		
2	7·5†	3	22. 24·1	+0·6	7. 40. 8·2	−0·8	
3	9·7	3	22. 44·8		8. 12. 22·7		
4	10·3	3	23. 28·5		7. 47. 54·9		
5	10·1	3	23. 51·1		6. 48. 5·4		
6	8·1†	3	23. 56·5	+1·3	4. 30. 13·3	+0·2	
7	9·7	3	23. 57·2		7. 19. 6·0		
8	10·1	4	24. 23·3		3. 27. 52·7		
9	10·0	3	24. 32·1		5. 9. 51·8		
1570	10·3	3	10. 24. 47·3		4. 43. 45·5		
1571	10·3	3	10. 24. 49·4		5. 49. 52·4		
2	10·0	3	25. 41·5		8. 6. 35·1		
3	9·7	3	26. 15·0		8. 14. 2·7		
4	10·3	3	26. 19·9		7. 51. 38·2		
5	10·3	3	26. 37·6		6. 59. 14·3		
6	10·3	3	26. 58·8		7. 0. 7·5		
7	8·9†	3	27. 21·5	+0·4	8. 0. 39·7	−0·3	A minute companion n.p.
8	9·7	3	28. 25·0		7. 40. 41·3		
9	10·0	3	28. 51·8		8. 24. 32·4		
1580	7·0†	3	10. 28. 55·3	+0·9	8. 49. 7·5	−0·5	
1581	9·7	3	10. 29. 50·8		5. 46. 15·2		
2	10·3	3	30. 19·1		5. 24. 17·4		
3	8·8	3	32. 25·3	+1·4	6. 2. 11·2	+0·8	
4	10·1	3	32. 49·7		5. 43. 39·5		
5	8·0†	4	33. 21·1	0·0	3. 52. 22·8	−0·8	
6	9·7	3	33. 34·2		8. 56. 31·2		
7	10·3	3	34. 37·0		6. 49. 16·6		
8	10·6	2	34. 54·2		3. 29. 50·6		Σ 1455, ½ (B+C).
9	10·3	3	35. 26·0		6. 48. 3·3		
1590	10·1	4	10. 35. 26·8		3. 29. 36·7		Σ 1455, A.
1591	10·3	3	10. 35. 52·8		7. 22. 45·5		
2	10·2	4	36. 4·6		1. 11. 22·5		
3	10·3	2	36. 6·1		7. 32. 14·6		
4	10·3	3	36. 45·1		6. 55. 10·2		
5	10·5	3	36. 45·5		6. 44. 17·8		
6	10·3	3	36. 58·9		7. 54. 47·6		
7	10·1	3	37. 17·4		6. 2. 33·4		
8	10·3	3	37. 34·3		8. 40. 34·8		
9	10·3	3	37. 54·0		4. 20. 37·7		
1600	10·3	3	10. 37. 55·6		4. 36. 1·3		
1601	10·3	4	10. 38. 16·3		7. 36. 15·0		
2	9·7	3	38. 38·1		8. 38. 47·7		
3	10·3	3	39. 14·5		8. 33. 53·6		
4	10·3	3	40. 15·9		7. 23. 10·1		
5	8·5†	3	40. 40·2	+0·9	4. 52. 19·2	+0·8	
6	8·9	3	41. 15·3		8. 52. 37·1		
7	8·8	3	42. 19·1		9. 1. 39·3		
8	10·0	3	42. 23·2		5. 47. 13·5		
9	10·3	3	42. 25·9		9. 0. 55·0		
1610	10·2	4	10. 42. 53·3		8. 41. 51·4		
1611	10·3	3	10. 43. 25·2		8. 10. 35·0		
2	10·3	3	43. 29·5		4. 57. 34·9		
3	9·7	3	43. 48·7		4. 27. 20·2		
4	10·8	2	45. 39·4		8. 44. 16·3		
5	9·1	4	45. 52·2		4. 0. 18·7		
6	9·4	3	46. 27·4		9. 2. 48·3		
7	10·3	4	46. 38·6		2. 26. 18·2		
8	10·3	4	46. 50·1		2. 33. 44·7		
9	9·4	3	46. 52·6	+0·4	6. 0. 10·3	+1·0	S. p. of a double.
1620	9·7	4	10. 46. 55·2		3. 32. 47·0		Σ 1479. (4″·6.)

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
1621	10·6	2	10. 46. 55·7		7. 22. 59·6		
2	9·7	3	47. 2·0		7. 57. 56·0		
3	9·7	3	47. 20·7		7. 2. 59·6		
4	10·3	3	47. 40·4		5. 1. 26·5		
5	10·6	3	47. 50·0		6. 20. 17·1		
6	10·3	3	48. 1·2		5. 29. 12·5		
7	10·3	4	48. 4·9		3. 47. 29·4		
8	9·7	3	48. 18·0		7. 32. 40·1		
9	10·1	3	48. 54·9		6. 19. 24·9		
1630	10·3	3	10. 49. 21·9		6. 59. 45·3		
1631	10·8	3	10. 50. 0·2		6. 1. 12·4		
2	10·3	3	50. 13·3	s	6. 20. 46·5	″	
3	9·1	4	50. 23·4	+2·3	3. 40. 32·4	−4·3	
4	9·9	4	51. 15·9		3. 19. 37·0		
5	10·3	3	51. 37·0		8. 10. 2·0		
6	9·9	5	51. 47·5		2. 35. 46·1		
7	9·0†	3	52. 29·0	−1·9	8. 10. 46·8	+0·7	
8	10·3	4	52. 36·6		2. 40. 32·0		
9	7·5†	18	52. 57·5	+2·7	1. 34. 29·3	−0·5	
1640	10·3	3	10. 53. 42·4		7. 13. 33·8		
1641	8·9	3	10. 54. 12·6	−0·6	6. 28. 27·9	−0·1	
2	10·3	3	54. 19·8		7. 24. 42·8		
3	10·0	3	55. 6·7		6. 7. 12·7		S. f. of a double. Σ 1499.
4	9·7	3	55. 9·2		5. 26. 27·8		
5	7·5†	5	56. 9·7	+0·1	3. 34. 30·6	0·0	
6	9·7	3	56. 27·1		8. 46. 44·0		
7	10·3	3	56. 50·7		4. 36. 41·3		
8	10·6	3	57. 5·8		6. 57. 11·7		
9	9·7	3	57. 23·6		5. 43. 24·3		
1650	10·0	3	10. 57. 42·9		6. 46. 7·4		
1651	7·5†	3	10. 58. 0·5	+0·4	7. 28. 37·4	+5·1	
2	7·7†	3	58. 33·1	+1·0	8. 15. 59·3	−0·7	
3	10·0	3	59. 29·6		4. 15. 16·7		
4	10·3	3	59. 40·1		5. 25. 13·1		
5	10·0	3	11. 0. 7·1		4. 41. 12·4		
6	10·0	3	0. 32·2		6. 35. 49·6		
7	9·4	3	1. 0·9		7. 0. 35·5		
8	10·3	3	1. 1·3		7. 49. 29·9		
9	10·3	3	1. 11·3		8. 41. 53·2		
1660	10·3	3	11. 1. 23·9		4. 7. 15·6		
1661	10·3	3	11. 2. 30·8		4. 52. 8·7		
2	10·3	3	2. 42·3		4. 11. 34·1		
3	9·7	3	3. 0·8		8. 29. 32·2		
4	10·3	3	3. 35·2		8. 4. 15·6		
5	9·7	3	5. 7·7		6. 31. 1·7		
6	9·7	3	5. 31·1		6. 35. 46·5		
7	10·3	4	6. 3·6		3. 13. 32·7		
8	8·5†	3	6. 31·6	−0·2	5. 51. 30·6	−1·6	
9	9·3	4	6. 54·8		3. 9. 36·7		
1670	10·6	3	11. 7. 1·3		4. 43. 49·3		
1671	8·5†	4	11. 7. 27·5	+1·1	8. 13. 59·5	+0·2	
2	10·6	3	8. 2·5		7. 30. 33·3		
3	10·3	4	8. 18·8		3. 18. 29·6		
4	10·5	3	8. 22·3		5. 51. 11·0		
5	9·7	3	8. 34·8		6. 53. 37·2		
6	9·9	4	8. 51·7		1. 19. 25·7		
7	10·3	4	9. 27·4		2. 57. 33·6		
8	10·3	3	10. 35·5		6. 23. 7·7		
9	10·3	3	10. 37·8		4. 59. 32·7		
1680	9·7	3	11. 10. 46·9		4. 15. 49·8		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
1681	10·3	3	11. 11. 8·9		7. 18. 25·0		
2	10·1	3	11. 33·4		6. 55. 8·9		
3	9·7	4	11. 55·7		3. 33. 59·3		
4	10·3	3	12. 25·8		6. 20. 35·0		
5	10·3	3	12. 41·2		8. 38. 49·0		
6	10·6	4	13. 13·0		2. 22. 47·6		
7	10·3	3	13. 47·9		1. 51. 2·6		
8	10·3	3	14. 5·2		7. 39. 0·8		
9	10·3	3	14. 27·4		8. 21. 31·3		
1690	10·3	3	11. 15. 38·6		7. 51. 54·5		
1691	9·7	3	11. 16. 3·5		8. 39. 12·0		
2	10·3	4	17. 9·6		3. 35. 26·5		
3	10·3	3	17. 48·0		5. 41. 35·7		
4	9·9	4	18. 5·9	s	3. 43. 2·8	″	
5	9·5	3	19. 19·2	+2·8	7. 6. 16·2	−2·4	
6	10·3	3	19. 28·3		8. 9. 43·3		Σ 1539.
7	10·3	3	19. 31·6		6. 55. 33·1		
8	9·7	3	19. 34·6	+1·4	8. 9. 56·7	+0·6	Σ 1539.
9	10·3	4	19. 48·1		3. 34. 53·1		
1700	8·0†	3	11. 20. 2·5	+1·2	4. 29. 43·4	+2·6	
1701	9·6	4	11. 20. 22·3		3. 41. 6·3		
2	9·7	3	20. 28·9		5. 11. 50·7		
3	10·3	3	20. 33·8		7. 18. 27·8		
4	9·7	3	21. 4·2		6. 38. 56·0		
5	9·9	4	21. 4·4		1. 30. 40·9		
6	10·3	3	21. 14·2		8. 53. 28·9		
7	6·0*	3	21. 26·4	−1·1	8. 4. 29·9	−1·0	
8	10·3	3	22. 2·0		7. 49. 41·2		
9	9·7	3	22. 22·6		5. 31. 18·3		
1710	10·3	3	11. 22. 25·1		7. 8. 30·6		
1711	9·7	3	11. 23. 8·9		4. 34. 30·8		
2	7·5†	5	23. 45·0	+1·9	3. 35. 1·4	−2·7	
3	10·3	3	23. 47·5		6. 33. 55·6		
4	10·3	3	24. 4·8		7. 31. 19·9		
5	10·5	3	24. 23·3		4. 16. 56·8		
6	10·3	3	24. 41·9		8. 54. 39·7		
7	9·7	3	24. 43·2		8. 22. 52·0		
8	9·7	3	25. 17·2		6. 10. 47·7		
9	10·0	3	25. 52·3		7. 54. 55·6		
1720	9·7	3	11. 25. 55·0		8. 54. 34·8		
1721	9·7	3	11. 26. 8·1		7. 54. 6·3		
2	10·3	3	27. 37·5		4. 26. 13·3		
3	10·3	3	27. 53·2		7. 51. 5·7		
4	10·3	3	28. 8·8		8. 21. 9·0		
5	10·3	3	28. 54·1		8. 43. 43·1		
6	9·2†	3	29. 3·7		7. 19. 45·7		
7	10·1	3	29. 8·3		7. 36. 0·2		
8	9·7	3	29. 11·7		8. 27. 13·2		
9	10·3	3	29. 39·0		4. 7. 9·9		
1730	10·3	3	11. 29. 40·2		4. 56. 27·4		
1731	8·0†	3	11. 29. 58·7	+1·4	7. 6. 52·0	−1·4	
2	9·7	3	30. 27·1		8. 5. 59·0		
3	9·7	3	30. 44·7	+2·4	8. 52. 1·4	−1·8	
4	10·3	3	30. 56·1		8. 57. 43·1		
5	9·7	3	31. 1·7		4. 55. 32·6		
6	10·3	3	31. 13·6		8. 39. 38·4		
7	10·3	4	31. 27·1		1. 24. 48·4		
8	10·2	4	31. 39·6		2. 40. 32·9		
9	10·3	3	31. 56·4		5. 37. 9·6		
1740	9·7	3	11. 32. 43·7		5. 24. 39·2		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
1741	9·5	3	11. 32. 53·8		8. 36. 54·2		
2	9·7	3	33. 41·0		7. 41. 36·5		
3	10·3	3	33. 54·9		5. 0. 55·0		
4	10·3	3	34. 13·1		7. 25. 21·3		
5	9·1	5	34. 38·9	s	3. 50. 36·0	″	
6	9·1	3	34. 42·4	+0·5	5. 45. 51·5	+0·4	
7	8·5†	3	34. 54·9	+0·8	6. 52. 27·0	−1·6	
8	9·9	5	35. 20·8		1. 1. 45·1		
9	8·5†	5	36. 25·6	+1·7	3. 39. 45·2	+0·9	
1750	10·1	3	11. 37. 11·4		8. 8. 6·0		
1751	10·3	4	11. 37. 34·7		6. 7. 4·5		
2	10·3	3	37. 36·7		5. 6. 12·6		
3	10·3	3	38. 7·4		7. 22. 13·3		
4	10·3	3	38. 18·2		7. 30. 41·3		
5	9·7	3	39. 2·8		9. 0. 34·5		
6	9·1	4	40. 53·1		3. 31. 23·5		
7	9·7	3	41. 23·3	−0·6	4. 23. 56·7	+0·9	
8	10·5	3	41. 38·8		6. 7. 44·9		
9	9·1	3	41. 41·7	+0·8	4. 11. 35·4	0·0	
1760	10·3	3	11. 42. 1·5		8. 31. 11·4		
1761	9·1	3	11. 42. 17·8	+0·9	6. 31. 39·3	+0·3	
2	8·0†	5	44. 13·5	−5·6	2. 58. 21·6	−8·9	Proper motion.
3	10·0	3	44. 41·5		6. 0. 40·6		
4	10·3	3	44. 55·1		6. 25. 50·6		
5	9·7	3	45. 1·8		7. 13. 11·9		
6	10·1	3	45. 5·8		6. 0. 40·3		
7	10·3	4	45. 34·0		1. 21. 20·1		
8	9·7	3	45. 43·4	+1·9	7. 15. 22·5	−1·8	
9	9·7	3	47. 10·2		8. 12. 1·2		
1770	10·3	3	11. 48. 38·6		7. 24. 15·3		
1771	9·7	3	11. 49. 36·3		6. 22. 14·4		
2	9·7	3	50. 0·1		7. 55. 40·9		
3	9·7	3	50. 11·9	−0·2	7. 0. 41·0	−2·9	
4	8·5†	3	50. 13·8	−1·3	8. 33. 31·5	+0·4	
5	10·5	3	50. 18·9		7. 27. 34·0		
6	10·3	4	50. 33·0		3. 27. 40·2		
7	9·7	4	51. 15·5		2. 11. 49·2		Σ 1583.
8	7·7†	4	51. 36·2	−0·6	2. 11. 52·7	+1·8	Σ 1583.
9	9·7	3	51. 41·1	+0·1	4. 8. 25·6	−2·1	
1780	9·7	3	11. 51. 53·1		6. 8. 7·7		
1781	9·7	3	11. 51. 53·6		6. 26. 55·5		
2	10·3	3	51. 54·0		7. 10. 50·0		
3	10·3	3	51. 59·7		7. 47. 36·6		
4	7·0†	3	52. 38·5	−0·2	8. 20. 15·8	+0·1	
5	10·3	3	53. 24·6		4. 58. 23·6		
6	10·0	3	53. 32·1		4. 12. 36·6		
7	9·7	4	53. 52·5		2. 49. 27·5		
8	10·3	3	54. 30·1		8. 43. 49·8		
9	10·3	4	54. 51·1		3. 21. 17·8		
1790	9·1	3	11. 55. 50·7	+1·6	5. 48. 38·6	−0·1	
1791	8·1†	3	11. 55. 53·1	+0·5	7. 30. 14·8	−2·4	
2	10·3	3	57. 3·6		4. 42. 27·6		
3	6·5†	24	57. 21·8	−1·0	3. 36. 32·3	−2·4	
4	10·3	3	57. 21·9		5. 45. 29·5		
5	9·9	4	58. 2·5		2. 55. 46·9		
6	10·3	3	58. 32·4		8. 53. 6·2		
7	9·7	3	59. 24·9		8. 22. 32·6		
8	10·3	3	12. 0. 8·7		5. 17. 2·0		
9	10·3	3	0. 35·5		8. 27. 2·7		
1800	10·0	3	12. 1. 0·6		9. 3. 23·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
1801	10·3	3	12. 1. 11·8		6. 42. 52·2		
2	10·3	3	2. 0·5		6. 45. 28·8		
3	10·3	3	2. 7·0		5. 52. 32·6		
4	10·5	3	3. 3·3		8. 40. 43·5		
5	10·3	3	3. 3·9		5. 54. 48·5		
6	10·5	3	3. 45·6		5. 56. 7·0		
7	6·1*	3	4. 23·4	−0·2	7. 28. 58·0	−1·8	Of a yellow colour.
8	8·8	3	4. 35·2	+2·2	4. 6. 49·4	+0·2	
9	9·5	3	4. 42·3		4. 15. 13·4		
1810	9·7	3	12. 4. 55·6	+0·8	7. 28. 43·3	−4·9	Compare with 1807.
1811	10·3	3	12. 4. 56·1		7. 45. 16·7		
2	9·6	4	5. 0·8	+0·7	3. 29. 15·9	−2·5	
3	9·9	4	5. 18·9		3. 50. 44·8		
4	10·3	4	5. 20·3		3. 37. 57·2		
5	10·1	3	5. 31·6		6. 24. 27·0		
6	8·0†	4	6. 37·9	−0·8	2. 15. 39·9	+3·0	
7	9·7	3	6. 47·5		5. 53. 34·5		
8	8·2†	3	6. 49·3	+1·2	5. 41. 25·1	−0·8	
9	10·3	3	6. 50·9		7. 33. 38·2		
1820	10·2	4	12. 7. 17·2		2. 59. 19·3		N. p. of two.
1821	10·6	3	12. 7. 33·2		5. 57. 0·4		
2	10·3	3	8. 53·3		5. 5. 18·1		
3	10·0	3	9. 9·1		7. 51. 36·4		
4	8·0†	3	9. 47·5		9. 4. 17·2		Σ 1625.
5	8·0†	3	9. 51·5	+0·9	9. 4. 6·4	+1·7	Σ 1625.
6	10·3	3	10. 32·4		4. 46. 50·0		
7	10·2	4	10. 56·3		2. 26. 22·5		
8	10·3	3	11. 35·0		8. 25. 0·9		
9	9·5	3	12. 15·0		4. 54. 7·5		
1830	6·3*	5	12. 12. 33·5	+7·6	2. 45. 28·5	+0·4	
1831	10·3	3	12. 13. 4·2		5. 58. 45·4		
2	10·5	3	13. 15·0		6. 56. 13·7		
3	9·7	3	14. 16·1		6. 13. 5·0		
4	6·2*	15	14. 22·1	−1·2	1. 29. 46·8	−1·9	
5	9·7	3	14. 38·5		8. 58. 30·4		
6	7·9†	3	14. 53·4	+1·7	5. 49. 15·0	+0·1	
7	9·9	4	15. 30·7		1. 24. 56·0		
8	9·7	3	15. 32·1		7. 58. 43·2		
9	9·9	4	15. 37·1		2. 38. 57·4		
1840	10·5	3	12. 16. 11·9		6. 39. 47·2		
1841	9·5	3	12. 17. 16·5	+2·4	6. 32. 17·2	−0·4	
2	10·5	3	17. 49·4		4. 14. 16·8		
3	9·1	3	18. 1·3		5. 32. 32·5		
4	10·3	3	18. 29·9		4. 22. 16·5		
5	9·7	3	18. 41·9		8. 22. 10·3		
6	9·7	3	19. 9·2		6. 22. 35·0		
7	8·2†	3	19. 17·1	+0·2	5. 46. 2·4	−2·0	
8	10·8	3	19. 17·5		5. 9. 43·1		
9	9·5	4	19. 17·8		3. 53. 19·6		
1850	10·3	3	12. 19. 34·6		7. 25. 41·9		
1851	10·6	3	12. 19. 39·1		5. 17. 13·8		
2	9·7	3	19. 39·4	+1·7	6. 31. 50·8	−1·7	
3	10·3	3	21. 26·6		6. 58. 57·4		
4	9·7	3	21. 40·9		7. 43. 21·3		
5	10·1	4	21. 55·8		1. 20. 13·2		
6	9·1	3	22. 10·4		5. 19. 17·7		
7	10·6	3	22. 53·7		6. 28. 45·1		
8	10·3	3	23. 39·1		7. 30. 35·2		
9	8·2†	3	23. 47·1	−0·5	7. 12. 5·6	−3·7	
1860	10·3	3	12. 23. 50·5		7. 50. 5·4		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
1861	10·3	3	12. 24. 41·5		8. 44. 59·9		
2	10·1	4	24. 48·4		2. 5. 59·9		
3	10·1	4	24. 51·6		2. 10. 39·1		
4	10·5	3	25. 28·7		7. 32. 22·1		
5	10·3	4	26. 51·7		2. 25. 52·8		
6	8·5†	3	28. 48·0	+0·9	8. 15. 15·4	−2·6	
7	10·1	3	29. 31·1		5. 44. 43·6		
8	7·7†	3	29. 41·0	0·0	8. 56. 57·4	−4·3	
9	10·0	3	29. 57·1		7. 16. 5·1		
1870	10·0	3	12. 30. 38·1		7. 42. 29·0		
1871	9·7	3	12. 31. 34·9		4. 31. 10·5		
2	9·7	3	33. 28·7		6. 36. 52·3		
3	10·5	3	33. 40·2		5. 57. 18·2		
4	9·7	3	34. 27·9		4. 27. 58·0		
5	7·4†	5	34. 43·4	+1·6	3. 28. 11·8	−1·8	
6	10·8	3	35. 15·1		4. 6. 51·5		
7	10·3	3	35. 25·0		5. 43. 47·0		
8	10·0	3	35. 29·0		5. 34. 16·4		
9	10·3	3	35. 54·1		7. 57. 54·3		
1880	10·0	3	12. 36. 17·3		4. 30. 39·4		
1881	10·3	3	12. 36. 46·9		5. 37. 33·3		
2	7·9†	3	37. 13·6	−2·9	5. 33. 35·0	−1·9	
3	10·3	3	37. 14·0		5. 21. 16·5		
4	10·3	4	38. 56·3		4. 5. 20·0		
5	10·1	4	38. 59·8		3. 49. 10·5		
6	10·3	3	39. 1·6		7. 26. 25·6		
7	10·0	3	39. 54·9		4. 20. 38·7		
8	9·7	4	40. 34·0		1. 54. 1·8		
9	6·7†	3	40. 45·9	+1·4	8. 35. 0·4	+0·1	
1890	10·6	3	12. 40. 48·4		6. 58. 33·2		
1891	9·7	3	12. 41. 5·6		7. 30. 53·1		
2	10·3	3	41. 8·6		6. 19. 15·5		
3	10·3	3	41. 30·2		8. 43. 15·5		
4	10·3	3	41. 53·3		6. 45. 26·1		
5	10·3	3	42. 19·9		8. 47. 11·2		
6	9·7	4	42. 45·1		2. 14. 59·1		
7	10·3	3	42. 45·9		7. 35. 32·3		
8	9·9	5	43. 34·8		2. 43. 11·9		
9	9·7	3	43. 48·3		6. 50. 23·4		
1900	10·3	3	12. 43. 48·4		5. 45. 19·5		
1901	10·3	3	12. 43. 49·7		8. 4. 22·9		
2	9·4	3	44. 14·9		7. 30. 16·4		
3	10·3	1	44. 27·5		8. 21. 19·3		
4	10·1	3	44. 29·8		7. 56. 32·6		
5	9·6	4	45. 31·5	−2·2	3. 45. 36·3	−1·6	
6	9·7	3	45. 33·9		7. 37. 34·6		
7	8·1†	3	45. 34·5	+1·3	8. 48. 9·2	−1·9	
8	9·7	3	45. 52·2		7. 38. 52·4		
9	10·0	3	46. 4·0		4. 56. 27·8		
1910	10·3	3	12. 46. 12·9		8. 42. 43·6		
1911	10·5	3	12. 47. 10·2		6. 42. 36·9		
2	9·7	3	47. 12·0	+1·5	6. 46. 49·8	−0·5	
3	6·3*	3	47. 59·4	−0·5	5. 47. 36·6	+0·4	
4	5·5*	3	48. 7·2	−0·3	5. 47. 54·7	−0·1	
5	10·0	3	48. 12·4		8. 9. 29·7		
6	9·7	3	48. 22·4	+0·2	6. 41. 35·4	−0·7	
7	10·1	3	48. 48·5		6. 32. 39·6		
8	10·0	3	50. 54·1		9. 0. 54·0		
9	10·3	3	51. 0·0		8. 13. 9·8		
1920	10·3	3	12. 51. 4·8		6. 35. 17·6		

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No.	Mag.	Obs.	R.A. 1855·0.	C – S.	N.P.D. 1855·0.	C – S.	Notes.
			h m s	s	° ′ ″	″	
1921	7·5†	3	12. 52. 45·7	+1·4	6. 41. 48·4	+0·9	
2	9·6	4	52. 49·9	−6·6	1. 14. 6·6	+0·4	
3	9·4	3	52. 55·4		7. 3. 34·7		
4	10·1	3	53. 2·9		7. 50. 14·4		
5	9·7	3	53. 10·7		5. 59. 37·2		
6	10·3	3	53. 31·9		5. 26. 47·1		
7	9·5	3	53. 39·1		4. 30. 50·1		
8	10·0	3	53. 58·9		4. 44. 10·0		
9	10·4	4	54. 30·6		3. 11. 27·8		
1930	10·1	3	12. 54. 35·5		8. 51. 5·6		
1931	9·7	5	12. 55. 53·0		4. 5. 8·6		
2	10·6	3	56. 14·0		4. 8. 46·5		
3	10·5	3	56. 27·3		5. 54. 20·7		
4	10·5	3	57. 20·6		7. 33. 15·8		
5	10·5	3	57. 49·6		6. 28. 26·6		
6	7·7†	3	58. 2·8		8. 20. 37·9		
7	9·7	3	58. 43·1		6. 19. 30·4		
8	8·9†	3	58. 51·3	+0·3	6. 17. 2·3	−1·3	Seen double. Σ 1720 (1″·6). The mean taken.
9	10·3	3	59. 47·5		6. 50. 45·0		
1940	10·5	3	13. 0. 0·3		7. 26. 28·1		
1941	10·6	3	13. 0. 27·0		5. 26. 56·7		
2	9·7	3	1. 20·9		4. 38. 6·2		
3	9·3	4	1. 22·9	−2·7	2. 33. 28·3	−4·6	
4	7·7†	4	1. 46·3	+0·7	3. 20. 4·8	+1·7	
5	9·1	3	1. 58·8		4. 57. 46·9		
6	10·5	3	2. 9·4		5. 31. 54·1		
7	10·0	3	2. 32·3		6. 21. 27·2		
8	10·5	3	3. 8·9		4. 43. 24·2		
9	10·1	3	3. 12·5		7. 51. 24·8		
1950	10·3	3	13. 3. 32·6		7. 58. 40·1		
1951	9·1	4	13. 3. 53·5	+3·2	0. 51. 18·5	−0·3	There is a fainter star to the South.
2	10·3	3	4. 13·7		8. 1. 46·8		
3	10·3	3	4. 26·4		7. 45. 48·4		
4	10·2	4	4. 38·2		2. 23. 33·0		
5	10·6	3	5. 5·7		4. 58. 0·4		
6	8·5†	3	5. 6·0	+0·8	5. 35. 27·1	−5·8	
7	10·6	3	5. 10·2		5. 29. 20·0		
8	10·3	3	6. 9·8		5. 13. 33·0		
9	10·3	3	7. 24·4		7. 46. 53·3		
1960	10·3	4	13. 8. 17·4		5. 40. 22·4		
1961	9·7	4	13. 8. 55·1		2. 59. 10·8		
2	10·3	3	9. 11·9		5. 56. 35·7		
3	9·7	3	9. 40·7		8. 51. 42·0		
4	10·3	3	10. 35·8		8. 28. 15·5		
5	9·4	3	10. 36·1	+2·4	5. 33. 49·4	−3·7	
6	10·5	3	10. 44·3		6. 59. 58·2		
7	10·1	3	10. 56·3		9. 2. 48·3		
8	7·0†	3	11. 11·6	+0·4	8. 45. 38·5	+0·6	
9	9·7	3	11. 47·5		6. 37. 51·6		
1970	9·7	3	13. 11. 51·8		5. 51. 5·2		
1971	9·7	3	13. 12. 1·2		6. 59. 55·8		
2	7·5†	13	12. 10·5	+0·7	1. 34. 26·2	+1·8	
3	10·4	4	12. 11·5		3. 30. 50·8		
4	9·7	3	12. 23·6		6. 34. 24·4		
5	9·7	3	12. 30·7		5. 3. 10·0		
6	10·3	3	12. 33·6		6. 9. 0·6		
7	10·3	3	12. 34·6		8. 36. 51·2		
8	10·3	3	14. 4·0		7. 41. 17·1		
9	10·8	3	14. 9·5		8. 34. 51·4		
1980	9·7	5	13. 14. 34·2		4. 3. 2·9		

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No.	Mag.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s		° ′ ″		
1981	10·3	3	13. 15. 14·1		7. 23. 5·5		
2	9·4	3	15. 29·3		7. 8. 10·7		
3	10·1	3	15. 36·0		6. 57. 19·3		
4	10·1	3	15. 41·5		7. 3. 7·1		
5	10·0	3	16. 19·1		8. 43. 17·5		
6	10·8	3	16. 31·8	s	4. 26. 34·3	″	
7	8·6†	3	16. 37·8	−0·1	7. 44. 0·9	−0·5	
8	10·1	3	17. 5·6		7. 47. 44·2		
9	9·7	3	17. 9·2		6. 22. 37·3		
1190	10·3	3	13. 17. 13·5		4. 53. 37·7		
1991	10·3	3	13. 17. 13·8		6. 18. 12·3		
2	10·8	3	17. 25·3		5. 34. 30·4		
3	9·7	3	18. 15·6		8. 56. 50·8		
4	10·3	3	18. 21·0		9. 3. 24·7		
5	9·4	3	18. 37·5	+1·1	5. 19. 55·2	+1·4	
6	9·7	3	19. 37·3		8. 58. 40·5		
7	9·7	3	19. 45·9		8. 37. 0·9		
8	10·3	3	19. 57·9		5. 38. 18·0		
9	10·1	3	19. 59·9		4. 9. 27·2		
2000	10·3	3	13. 20. 7·0		4. 47. 25·6		
2001	7·7†	3	13. 20. 40·1	−2·5	4. 29. 13·2	−0·4	
2	10·3	3	20. 44·2		7. 47. 48·2		
3	10·3	4	21. 11·2		3. 49. 56·3		N. p. of two.
4	9·7	3	21. 14·7		8. 57. 21·2		
5	10·1	3	21. 19·3		8. 20. 54·5		
6	7·7†	3	21. 53·2	−0·9	5. 20. 32·6	−0·5	
7	10·3	4	22. 10·5		2. 49. 12·4		N. f. of two.
8	10·0	3	22. 28·4		5. 49. 49·1		
9	9·7	3	22. 43·3		7. 44. 44·6		
2010	10·0	3	13. 22. 43·7		4. 31. 19·7		
2011	10·3	3	13. 22. 49·0		7. 54. 34·6		
2	10·3	3	23. 11·5		8. 12. 38·7		
3	9·4	3	23. 51·4		4. 16. 30·4		
4	9·7	3	24. 7·0		5. 45. 50·4		
5	9·3	5	24. 36·0	0·0	2. 55. 22·1	−0·5	
6	10·3	3	24. 49·4		8. 10. 7·2		
7	9·7	3	25. 38·1		8. 47. 35·2		
8	9·4	3	25. 44·1		4. 12. 24·5		
9	10·3	3	25. 44·4		6. 6. 22·0		
2020	10·3	3	13. 25. 54·4		8. 5. 1·4		
2021	9·4	3	13. 26. 10·6		8. 13. 17·9		
2	8·9	3	27. 10·9		5. 47. 5·6		
3	7·9†	3	27. 54·7	+1·2	5. 56. 38·5	−1·5	
4	10·3	3	28. 2·5		5. 46. 45·7		
5	8·5†	3	28. 46·6		7. 59. 13·1		
6	10·0	3	28. 57·7		8. 29. 39·5		
7	9·6	4	29. 57·3		3. 28. 28·6		
8	10·3	3	30. 8·1		8. 28. 37·9		
9	9·7	3	30. 26·6		8. 58. 28·5		
2030	9·7	3	13. 30. 27·1		8. 57. 21·2		
2031	9·1	5	13. 30. 28·6	+0·3	2. 41. 6·9	+1·9	
2	10·3	3	30. 48·7		6. 49. 17·2		
3	10·3	3	31. 38·7		6. 22. 17·1		
4	10·3	3	31. 48·3		7. 23. 37·4		
5	10·3	3	32. 7·7		6. 48. 40·7		
6	9·4	3	32. 49·6	+1·3	7. 15. 42·5	+0·6	
7	10·3	3	32. 52·7		6. 45. 36·6		
8	10·3	4	33. 2·4		3. 56. 2·4		
9	9·1	3	33. 3·3	+0·8	8. 56. 5·1	0·0	
2040	9·7	3	13. 34. 12·7		8. 27. 58·4		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
2041	10·3	3	13. 34. 22·2		7. 16. 53·0		
2	10·5	3	34. 28·6		8. 16. 27·9		
3	10·3	3	34. 39·4		8. 53. 35·3		A fainter star follows.
4	10·5	3	35. 43·4	s	4. 42. 48·0	″	
5	8·1†	6	35. 43·4	−1·5	3. 59. 6·3	+0·1	
6	10·1	3	35. 47·0		7. 54. 10·9		
7	10·3	3	36. 23·7		4. 26. 35·5		
8	8·5†	5	36. 43·6	+1·1	1. 42. 22·9	+0·5	
9	10·3	3	37. 0·8		4. 38. 21·5		
2050	9·1	3	13. 38. 9·8	+0·7	8. 46. 48·9	−6·1	
2051	10·5	3	13. 38. 22·2		4. 31. 0·8		
2	9·7	3	38. 35·5		7. 27. 55·9		
3	10·3	3	38. 48·7		7. 53. 42·7		
4	9·7	3	40. 9·4	+1·1	8. 13. 47·2	−2·8	
5	10·3	4	40. 23·0		4. 44. 47·3		
6	10·3	3	40. 36·3		5. 15. 5·0		
7	10·8	3	40. 38·7		6. 2. 30·7		
8	9·9	4	40. 47·1		2. 45. 4·9		
9	10·3	3	41. 20·4		8. 4. 5·5		
2060	9·7	3	13. 41. 50·0		6. 37. 53·2		
2061	8·2†	3	13. 42. 0·9	−0·1	8. 12. 47·3	−1·6	
2	10·3	3	42. 9·2		6. 18. 23·9		
3	10·3	4	42. 22·2		3. 37. 27·7		N. f. of two.
4	9·7	3	42. 35·5		8. 5. 18·7		Σ 1787. (1″·7). Not seen
5	7·5†	3	42. 39·1	+0·4	9. 4. 4·2	0·0	double.
6	9·7	3	42. 47·1		7. 34. 1·6		
7	10·3	3	43. 10·2		8. 12. 37·6		
8	9·7	5	43. 30·4		1. 9. 13·6		
9	10·6	4	43. 39·2		1. 11. 15·3		
2070	10·3	3	13. 43. 48·1		8. 52. 12·9		
2071	9·7	3	13. 44. 0·8		4. 30. 54·4		
2	10·3	3	44. 11·9		6. 31. 26·0		
3	9·4	3	44. 29·6	−0·1	8. 32. 59·0	−3·9	
4	10·1	4	45. 31·5		3. 11. 48·7		
5	9·7	3	45. 40·0		2. 56. 23·6		
6	9·7	3	45. 59·1		8. 42. 6·3		
7	10·3	3	46. 5·9		7. 43. 40·6		
8	10·3	3	46. 22·1		4. 46. 57·8		
9	9·7	3	46. 24·2	+1·9	4. 0. 46·0	−2·3	
2080	6·3*	3	13. 46. 42·2	+1·3	6. 31. 14·1	+0·7	
2081	10·3	3	13. 46. 48·0		5. 50. 56·9		
2	10·3	4	49. 20·1		2. 55. 15·5		
3	9·7	3	49. 38·3		8. 0. 25·0		
4	10·3	4	50. 2·4		3. 23. 42·0		
5	10·5	3	50. 11·8		8. 55. 54·1		
6	10·3	3	50. 51·5		6. 45. 9·6		
7	10·3	3	52. 19·6		8. 21. 52·9		
8	7·3†	3	53. 15·9	+1·3	8. 31. 7·2	−2·2	
9	10·3	1	53. 36·2		3. 38. 50·8		
2090	10·3	3	13. 54. 28·1		6. 58. 28·9		
2091	10·3	3	13. 54. 38·1		8. 28. 47·3		
2	8·1†	3	54. 46·0	+0·2	4. 46. 10·7	−3·9	
3	10·0	3	55. 29·2		5. 10. 13·3		
4	10·3	3	55. 52·1		6. 24. 36·3		
5	10·5	3	55. 54·9		6. 22. 32·1		
6	10·3	3	56. 22·4		7. 17. 53·5		
7	9·9	4	56. 44·0		2. 6. 56·1		
8	10·3	3	57. 6·7		8. 30. 56·7		
9	10·3	3	57. 17·9		5. 18. 21·3		
2100	10·3	4	13. 57. 50·6		3. 34. 31·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2101	10·5	3	13· 57· 59·3		8. 54. 4·7		
2	10·3	4	58. 7·5		2. 59. 50·4		
3	9·4	3	58. 12·2		7. 27. 40·7		
4	10·1	3	58. 12·4		7. 15. 36·1		
5	10·0	3	58. 22·7		6. 20. 36·5		
6	9·7	5	58. 26·7	+1·2	2. 47. 20·8	−6·1	
7	10·0	3	58. 49·4		9. 0. 17·3		
8	9·7	3	59. 5·1		8. 24. 52·1		
9	9·4	4	59. 36·5		3. 45. 53·1		
2110	10·5	3	14. 0. 9·4		5. 13. 15·4		
2111	9·2†	3	14. 0. 28·3	+1·0	7. 40. 59·5	−0·2	
2	9·0†	4	0. 47·2	+1·1	4. 5. 31·2	−1·4	
3	10·5	3	1. 15·8		7. 22. 55·9		
4	10·3	3	1. 17·8		7. 37. 49·9		
5	9·7	3	2. 40·7		8. 53. 40·6		
6	9·7	4	2. 42·8		2. 41. 11·2		
7	9·7	4	4. 0·4		2. 17. 52·1		
8	10·7	3	4. 2·5		6. 56. 14·9		
9	10·3	3	4. 32·9		6. 56. 9·8		
2120	10·5	3	14. 4. 39·7		8. 5. 38·6		
2121	9·1	5	14. 4. 55·9	+1·7	1. 59. 19·7	+0·1	
2	7·4†	4	5. 6·3	−3·8	3. 32. 52·8	−3·6	
3	10·8	3	6. 21·8		6. 56. 18·5		N. f. of two.
4	10·3	4	7. 8·5		3. 22. 55·6		
5	10·0	3	7. 13·9		8. 33. 19·1		
6	10·1	3	7. 27·0		8. 9. 1·1		
7	10·3	3	7. 55·5		7. 53. 57·8		
8	10·0	3	8. 20·5		8. 26. 11·4		
9	10·3	4	8. 45·4		2. 27. 20·2		
2130	10·3	4	14. 8. 54·0		3. 53. 8·6		
2131	10·3	3	14. 9. 24·6		6. 20. 0·9		
2	9·4	3	10. 19·2		7. 42. 28·4		
3	10·3	3	10. 38·3		8. 59. 20·0		
4	10·3	3	11. 3·8		8. 30. 28·7		
5	9·1	3	11. 24·4	+1·4	8. 9. 30·1	−3·6	
6	10·3	3	11. 29·2		8. 41. 56·3		
7	10·1	3	11. 54·8		6. 1. 42·8		
8	10·3	5	12. 8·3		3. 34. 8·4		
9	10·3	3	12. 27·7		8. 26. 27·0		
2140	10·1	3	14. 12. 38·7		7. 8. 27·1		
2141	10·0	3	14. 13. 19·1		5. 51. 44·9		
2	10·3	3	14. 40·7		4. 56. 14·7		
3	10·1	3	14. 49·6		4. 59. 35·0		
4	10·6	3	14. 59·8		6. 35. 12·6		
5	9·7	5	15. 36·3		2. 48. 59·2		
6	10·3	3	15. 38·8		6. 43. 7·9		
7	10·5	3	17. 56·8		7. 17. 53·9		
8	10·3	4	18. 8·0		1. 23. 35·0		
9	9·7	3	18. 14·6		8. 10. 41·4		
2150	9·7	3	14. 18. 48·2		8. 5. 31·2		
2151	10·6	3	14. 19. 26·5		7. 14. 19·3		
2	10·0	3	19. 47·2		7. 30. 40·8		
3	10·0	3	19. 56·0		6. 56. 51·1		
4	10·0	3	20. 1·0		8. 29. 10·0		
5	10·3	3	20. 10·2		8. 23. 9·0		
6	10·3	3	20. 46·5		7. 16. 47·8		
7	9·5	3	21. 18·2	+2·2	7. 38. 46·0	−3·3	
8	10·3	3	21. 57·7		6. 52. 10·6		
9	10·3	3	22. 23·2		4. 38. 31·0		
2160	10·3	4	14. 22. 49·7		1. 32. 50·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s	s	° ′ ″	″	
2161	10·6	4	14. 24. 4·7		3. 44. 50·7		
2	10·3	3	24. 25·5		7. 58. 26·1		
3	10·3	3	24. 34·9		6. 44. 57·4		
4	10·3	4	24. 47·8		2. 4. 16·1		
5	8·5	3	25. 24·4	+1·6	5. 23. 36·4	−3·1	
6	10·3	4	25. 39·2		2. 26. 47·0		
7	10·1	3	25. 43·1		8. 18. 54·5		A fainter star n. p.
8	10·6	3	25. 54·1		6. 0. 24·4		
9	10·0	3	26. 40·4		8. 50. 51·2		
2170	9·5	3	14. 26. 41·3	+1·5	4. 46. 27·7	−2·1	
2171	9·5	3	14. 28. 9·6	+0·8	8. 45. 43·3	−2·4	
2	10·4	4	28. 48·7		3. 41. 49·6		
3	10·3	4	29. 0·7		1. 23. 33·0		
4	9·7	4	29. 21·1		1. 27. 17·0		
5	10·4	4	29. 31·1		2. 40. 23·6		
6	9·7	3	29. 36·3		8. 18. 6·7		
7	9·1	3	29. 37·4	+1·0	6. 36. 27·3	−1·1	
8	10·0	3	30. 27·1		2. 15. 3·0		
9	10·3	3	31. 14·2		8. 12. 39·8		
2180	10·3	3	14. 31. 16·0		7. 30. 39·0		
2181	10·3	3	14. 31. 53·3		7. 46. 5·1		
2	10·3	3	32. 19·1		7. 56. 46·8		
3	9·7	6	32. 31·5		4. 1. 58·0		
4	9·6	4	32. 35·2	+5·3	1. 55. 40·6	−0·7	Σ 1887. The smaller star not seen.
5	10·1	3	33. 18·2		4. 33. 23·3		
6	9·5	3	33. 23·6	+0·6	7. 23. 45·9	−2·5	
7	10·0	3	34. 41·3		5. 16. 34·5		
8	7·6†	3	34. 47·1	−0·2	8. 32. 54·2	+1·2	
9	10·6	2	34. 56·2		5. 33. 22·3		
2190	10·3	3	14. 35. 22·0		6. 53. 13·7		
2191	10·0	3	14. 35. 36·4		7. 36. 33·0		
2	10·3	3	35. 52·5		7. 17. 21·9		
3	9·1	3	35. 55·3		6. 48. 24·0		
4	9·4	3	35. 59·3	+0·4	8. 48. 1·5	−5·3	
5	10·1	3	36. 9·0		7. 18. 39·4		
6	9·4	3	36. 34·4		5. 38. 3·9		
7	9·7	3	36. 51·0	+1·3	9. 1. 17·6	−2·1	
8	9·3	5	36. 57·1	−0·2	3. 45. 10·5	−1·9	
9	9·4	3	37. 8·7	+1·0	9. 1. 41·5	−2·0	
2200	8·9	3	14. 37. 21·5	+1·2	7. 54. 56·9	0·0	
2201	10·3	3	14. 37. 27·6		8. 41. 56·6		
2	10·3	3	37. 46·9		6. 57. 11·8		
3	10·3	3	38. 9·4		7. 5. 3·2		
4	10·3	4	38. 38·8		2. 4. 16·8		
5	10·6	4	39. 48·3		1. 23. 40·4		
6	9·1	3	40. 7·8	+2·3	5. 54. 37·1	−3·8	
7	9·5	3	40. 8·1		5. 53. 16·7		
8	9·7	3	40. 13·4	+0·5	8. 40. 6·9	−3·5	
9	10·3	3	40. 42·4		8. 45. 20·3		
2210	10·5	3	14. 40. 55·1		6. 13. 59·1		S. f. of a double.
2211	10·3	3	14. 41. 15·7		6. 25. 12·2		
2	10·3	3	41. 31·3		8. 35. 19·2		There is a fainter star to the South.
3	10·3	3	41. 56·2		6. 29. 37·6		
4	10·0	3	42. 12·6		9. 4. 44·8		
5	10·0	3	42. 39·4		8. 6. 43·6		
6	10·3	3	43. 9·1		6. 13. 18·7		
7	10·3	4	44. 16·1		2. 38. 57·2		
8	8·7	4	44. 38·2	+0·7	4. 5. 50·1	−2·2	
9	10·1	3	44. 55·1		7. 58. 10·8		
2220	10·3	3	14. 45. 3·1		7. 0. 6·4		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2221	10·3	4	14. 45. 12·3		4. 0. 14·1		
2	8·8†	3	46. 0·6	+1·0	6. 55. 5·5	−2·3	
3	10·0	3	46. 42·0		5. 4. 20·8		
4	10·5	3	47. 0·9		5. 48. 2·8		
5	10·4	4	47. 9·5		2. 56. 26·5		
6	10·3	3	47. 19·3		7. 30. 46·2		A fainter star s.f.
7	10·3	3	47. 39·9		6. 47. 18·8		
8	10·5	3	48. 4·7		4. 26. 54·1		
9	10·0	3	48. 6·1		6. 16. 1·9		
2230	9·7	3	14. 48. 22·8		8. 12. 42·8		
2231	9·9	4	14. 48. 33·6		3. 35. 57·4		
2	9·7	3	48. 58·8	+1·4	6. 55. 37·7	−2·1	
3	10·3	3	49. 2·3		8. 21. 37·5		
4	10·0	3	49. 7·7		6. 9. 50·6		
5	10·3	3	49. 11·9		4. 34. 42·1		
6	10·3	3	49. 12·8		4. 49. 4·9		
7	10·3	3	49. 40·0		5. 22. 33·9		
8	10·3	3	50. 29·8		5. 35. 13·2		
9	10·3	3	50. 30·5		8. 51. 16·1		
2240	10·3	3	14. 50. 36·0		7. 31. 10·1		
2241	9·7	3	14. 50. 59·1		6. 29. 25·0		
2	9·7	3	51. 11·4		7. 15. 44·7		
3	9·7	3	51. 12·5		5. 31. 16·6		
4	9·5	3	51. 23·7		6. 39. 2·8		
5	10·3	3	51. 41·6		5. 0. 13·4		
6	10·3	4	52. 33·2		1. 12. 19·9		
7	9·5	3	53. 17·0	+2·2	4. 31. 31·2	−1·8	
8	10·1	3	54. 14·6		8. 33. 56·8		
9	10·5	3	54. 56·0		6. 25. 33·2		
2250	10·3	4	14. 55. 19·5		3. 48. 16·3		
2251	10·3	4	14. 55. 31·1		3. 32. 17·1		
2	9·4	3	55. 37·9	+0·8	7. 50. 37·1	+0·6	
3	9·9	4	57. 1·5		3. 14. 5·0		
4	10·4	4	57. 4·2		3. 50. 26·7		
5	10·0	3	57. 10·3		8. 2. 28·1		
6	7·6†	3	57. 12·3	+0·5	8. 39. 52·4	−3·4	
7	9·7	3	57. 52·3		7. 1. 59·1		
8	7·1†	5	58. 29·1	+0·2	3. 27. 17·4	−0·8	Seen double. Σ 1915. (2″·5). The mean taken.
9	10·3	5	58. 45·6		3. 33. 34·0		
2260	9·9	5	14. 59. 29·1		2. 5. 6·7		
2261	6·0*	3	15. 0. 26·7	+3·5	6. 53. 45·1	+6·0	Proper motion.
2	9·7	3	0. 47·9		8. 42. 23·3		
3	9·7	3	1. 29·8		7. 48. 20·7		
4	9·7	3	2. 5·6		7. 31. 40·8		
5	10·3	3	2. 47·7		8. 18. 48·2		
6	9·4	3	3. 10·9	+3·7	4. 6. 54·3	−1·3	
7	9·7	3	5. 53·8		6. 3. 14·8		
8	10·0	3	5. 54·3		8. 22. 24·9		
9	10·4	4	6. 15·9		3. 59. 30·7		
2270	10·3	3	15. 6. 41·2		8. 13. 24·1		
2271	7·5†	3	15. 6. 46·9	+1·4	5. 29. 20·2	−0·9	
2	10·6	3	7. 47·7		6. 12. 43·1		
3	10·3	3	8. 22·8		8. 8. 51·1		
4	10·3	3	8. 28·4		5. 34. 28·0		
5	10·3	4	8. 38·1		2. 13. 33·1		
6	10·3	3	10. 5·5		5. 14. 9·0		
7	10·3	3	10. 21·0		6. 58. 34·8		
8	10·3	3	10. 27·2		8. 15. 54·3		
9	10·5	3	11. 40·8		5. 54. 59·1		
2280	9·7	3	15. 11. 44·1		6. 27. 18·7		

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No.	Mag.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s	s	° ′ ″	″	
2281	8·8†	3	15. 11. 45·9	+0·3	6. 15. 1·3	−2·6	
2	10·3	3	12. 4·3		7. 54. 8·4		
3	8·5†	3	12. 35·4	+1·8	5. 24. 45·5	+0·5	
4	10·5	3	12. 44·1		6. 6. 6·3		
5	10·3	3	12. 45·7		8. 27. 49·5		
6	9·7	3	12. 59·2	+1·0	6. 7. 1·2	−1·9	
7	10·6	3	13. 11·5		5. 54. 41·1		
8	9·7	3	13. 37·5		5. 30. 14·9		
9	9·1	3	14. 34·0	+0·5	7. 6. 8·3	−0·1	
2290	8·0†	4	15. 14. 35·0	−0·8	3. 56. 19·1	−1·8	
2291	8·2†	3	15. 15. 47·3	+2·1	6. 37. 41·0	−4·9	
2	10·3	3	16. 0·9		7. 39. 31·4		
3	8·0†	3	16. 37·5	−1·4	4. 19. 13·8	−0·5	
4	10·3	3	16. 51·5		7. 7. 24·6		
5	10·1	3	16. 55·6		7. 22. 28·5		
6	9·7	3	17. 4·5	+0·9	6. 1. 45·7	+0·9	
7	10·3	4	17. 22·4		1. 40. 36·3		
8	10·3	3	17. 40·8		4. 24. 9·0		
9	9·7	3	17. 58·0	+2·4	4. 23. 3·4	−2·5	
2300	10·3	3	15. 18. 31·4		7. 44. 27·8		
2301	9·6	4	15. 18. 45·4	−0·9	3. 32. 35·0	+0·6	Suspected to be double.
2	10·0	3	19. 7·1		6. 42. 18·7		
3	9·7	3	19. 30·9	+1·2	8. 46. 26·5	−3·2	
4	10·1	3	19. 33·3		4. 46. 58·1		
5	10·3	3	20. 43·2		7. 18. 20·5		
6	10·3	3	22. 6·3		6. 41. 7·8		
7	10·3	4	22. 25·0		3. 57. 56·3		
8	9·7	3	22. 46·6		8. 51. 28·9		
9	9·7	3	22. 54·1		7. 34. 8·0		
2310	10·3	3	15. 23. 13·7		7. 15. 2·0		
2311	10·3	3	15. 23. 35·6		8. 26. 52·7		
2	9·1	3	23. 45·7	+2·7	9. 3. 34·8	−1·6	
3	10·5	3	23. 46·4		4. 9. 8·6		
4	10·3	3	25. 24·7		4. 55. 8·1		
5	10·5	3	25. 53·5		6. 32. 16·3		
6	7·2†	12	25. 59·7	0·0	2. 13. 9·4	−1·4	
7	10·3	3	26. 6·3		8. 20. 13·6		
8	10·0	3	26. 27·7		8. 32. 16·3		
9	9·7	3	27. 24·2		5. 31. 36·3		
2320	10·5	3	15. 27. 52·7		7. 56. 5·8		
2321	10·3	4	15. 28. 31·7		3. 55. 37·8		
2	10·3	3	28. 40·1		7. 18. 37·3		
3	10·3	3	28. 51·3		5. 57. 31·2		
4	9·1	3	29. 2·5	+0·8	8. 21. 7·4	−1·3	
5	10·0	3	29. 18·4		7. 56. 47·3		
6	9·4	3	29. 27·8	+1·3	9. 1. 46·1	−2·7	
7	7·7†	3	29. 34·4	+1·0	8. 27. 13·0	−2·8	
8	9·4	3	29. 35·6	+0·3	7. 30. 15·1	−3·3	
9	9·7	3	29. 44·2		4. 31. 25·6		
2330	10·2	4	15. 30. 18·3		2. 24. 28·3		
2331	10·3	3	15. 30. 49·7		7. 41. 13·7		
2	10·1	3	31. 4·2		8. 27. 51·6		
3	9·0	5	31. 11·0		1. 26. 28·9		
4	10·2	4	31. 48·3		3. 57. 10·8		
5	10·1	4	32. 26·9		3. 33. 37·8		
6	10·3	3	32. 31·9		8. 57. 56·8		
7	10·0	3	33. 27·3		8. 10. 8·4		
8	9·7	3	33. 40·2		4. 43. 28·7		
9	10·3	5	34. 14·8		2. 14. 41·2		
2340	10·3	3	15. 34. 51·1		8. 36. 41·2		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2341	9·7	3	15. 35. 0·7		6. 24. 57·0		
2	7·8†	3	35. 5·3	+0·3	5. 38. 17·0	−1·9	
3	7·8†	3	35. 23·5	+3·6	7. 36. 49·4	−0·8	
4	10·3	3	36. 26·0		4. 37. 38·1		
5	10·6	4	36. 32·7		2. 23. 41·3		
6	10·3	3	36. 49·1		7. 0. 30·2		
7	9·4	3	37. 30·7		8. 54. 11·9		
8	7·0†	3	37. 47·2	−2·2	9. 4. 25·5	−0·9	Σ 1972.
9	9·7	3	37. 53·0		7. 17. 32·3		
2350	7·5†	3	15. 38. 0·0	−2·1	9. 4. 21·1	−4·5	Σ 1972. Proper motion and rotation.
2351	10·1	5	15. 38. 37·8		1. 41. 52·8		
2	7·6†	3	38. 54·3	+1·6	8. 44. 59·3	−2·7	
3	10·0	3	38. 54·7		7. 26. 5·4		
4	9·7	3	39. 21·7		5. 34. 29·0		
5	10·5	3	40. 34·2		7. 31. 5·5		
6	9·7	4	40. 45·6		3. 47. 25·6		
7	10·6	3	41. 32·1		7. 0. 58·8		
8	9·3†	3	42. 9·3	+0·9	8. 28. 31·6	−2·1	Σ 1980.
9	10·3	3	42. 10·0		7. 48. 51·4		
2360	7·0†	3	15. 42. 13·0	+2·7	7. 15. 37·3	−0·6	
2361	9·3†	3	15. 42. 13·1		8. 28. 25·0		Σ 1980.
2	10·3	3	43. 0·1		5. 40. 37·4		
3	7·7†	5	43. 10·8	−0·4	2. 28. 24·4	−1·7	
4	10·6	3	43. 36·3		8. 38. 8·7		
5	10·3	3	43. 50·2		8. 3. 42·7		
6	10·0	3	44. 59·0		9. 0. 50·2		
7	9·9	4	45. 6·5		3. 0. 21·1		
8	9·7	4	45. 16·0		3. 58. 16·3		
9	10·3	4	45. 16·0		0. 57. 9·8		
2370	7·3†	3	15. 45. 55·0	+1·3	8. 55. 39·7	−2·7	
2371	10·5	3	15. 46. 25·0		4. 33. 52·9		
2	10·1	3	46. 25·8		4. 58. 39·6		
3	8·8	3	46. 36·1	+4·3	5. 1. 9·6	−1·1	
4	10·0	3	47. 35·6		8. 5. 47·0		
5	10·3	3	48. 9·3		8. 32. 29·8		
6	9·1†	3	48. 13·9	+0·4	7. 42. 38·1	−1·7	
7	10·3	3	48. 33·6		8. 33. 56·8		
8	10·3	3	49. 43·9		8. 10. 32·7		
9	10·0	3	49. 56·6		4. 40. 49·8		
2380	7·4†	3	15. 50. 15·1	+0·5	4. 42. 16·2	−0·5	
2381	9·1	3	15. 50. 33·4	+1·0	6. 43. 42·4	−1·5	
2	9·7	3	50. 33·8	+1·7	4. 50. 18·3	+0·2	
3	9·7	3	50. 52·0		7. 10. 42·1		
4	10·3	3	51. 22·6		7. 58. 55·1		
5	9·7	3	51. 22·8		8. 11. 11·4		
6	10·3	3	51. 42·4		6. 26. 59·2		
7	9·7	3	52. 13·4		6. 19. 7·8		
8	10·0	3	52. 18·6		6. 19. 41·3		
9	10·3	3	52. 34·5		5. 15. 9·8		
2390	10·3	3	15. 53. 31·1		6. 50. 47·0		
2391	10·3	3	15. 54. 4·8		8. 22. 14·3		
2	9·1†	3	54. 18·1	−0·9	8. 14. 44·1	−4·4	
3	7·8†	3	54. 40·2	+1·9	8. 37. 56·1	−0·6	
4	10·3	4	54. 57·5		3. 9. 39·9		
5	9·5	3	55. 10·1	+1·7	4. 38. 46·1	−1·5	
6	10·0	3	56. 48·1		8. 17. 48·8		
7	10·3	3	56. 51·3		7. 39. 42·8		
8	9·7	5	57. 14·6	−5·5	2. 3. 54·1	−1·9	
9	9·7	3	57. 37·5		7. 7. 43·9		
2400	9·4	5	15. 57. 54·0		2. 56. 21·9		

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No.	Mag.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s	s	° ′ ″	″	
2401	8·9	4	15. 58. 3·7		6. 16. 39·9		
2	10·3	4	58. 17·6		3. 14. 57·4		
3	9·4	3	58. 41·0	−0·5	4. 18. 41·1	−0·9	
4	7·7†	3	58. 48·4	+1·2	6. 37. 16·9	−0·8	
5	10·3	3	58. 48·9		8. 5. 47·2		
6	8·9†	3	59. 32·7	+1·1	7. 12. 12·1	+0·3	
7	10·3	3	59. 47·0		6. 41. 4·9		
8	10·3	3	16. 0. 30·6		5. 37. 10·5		
9	10·1	3	1. 0·6		8. 32. 2·2		
2410	9·0†	3	16. 2. 4·1	+1·2	7. 13. 41·5	−2·7	
2411	10·5	3	16. 2. 42·9		8. 32. 19·5		
2	10·3	3	3. 9·7		7. 37. 19·8		
3	10·3	3	4. 1·2		4. 41. 11·5		
4	10·3	3	4. 8·0		6. 18. 0·0		
5	9·0†	3	4. 22·8	+1·0	8. 57. 22·6	−1·5	
6	8·9	3	4. 24·0	+2·1	6. 18. 36·2	−0·7	
7	10·3	3	4. 39·5		4. 10. 32·7		
8	8·9†	3	4. 53·5	+0·6	6. 46. 53·8	−0·5	
9	10·3	3	5. 10·2		6. 3. 20·4		
2420	9·7	3	16. 5. 27·9		8. 39. 25·5		
2421	9·0†	3	16. 5. 56·8	+0·4	8. 45. 32·0	+1·0	
2	10·3	3	6. 31·3		6. 23. 3·6		
3	7·0†	18	6. 35·0	−0·9	4. 17. 20·0	−1·0	Seen double. ≤ 2034. (1″·4).
4	7·7†	3	7. 0·6	+0·5	5. 58. 9·3	−3·7	The mean taken.
5	9·9	4	7. 34·4		3. 34. 29·6		
6	8·0†	3	7. 44·8	−0·4	5. 0. 32·1	−5·6	
7	10·3	3	7. 46·6		6. 45. 4·1		
8	10·3	3	8. 11·9		7. 35. 54·0		
9	10·3	3	8. 30·0		8. 12. 12·1		There is a fainter star. n. p.
2430	10·5	3	16. 8. 30·4		6. 29. 22·1		
2431	10·3	4	16. 8. 51·2		3. 19. 47·1		
2	10·3	3	9. 8·1		4. 20. 23·7		
3	9·7	3	9. 10·1		8. 49. 58·3		
4	10·5	3	9. 13·7		6. 2. 15·1		
5	10·3	3	9. 37·8		5. 59. 33·9		
6	9·7	3	10. 16·5		6. 31. 12·9		
7	9·1†	3	10. 41·5	+1·1	6. 54. 20·5	−2·9	
8	8·0†	3	10. 45·8	+0·3	8. 59. 11·6	−1·9	
9	9·7	3	11. 10·0		5. 41. 52·4		
2440	10·3	3	16. 11. 15·7		6. 15. 45·5		
2441	10·1	5	16. 11. 27·1	+1·0	1. 58. 15·5	−1·0	
2	8·7†	3	12. 4·9	+1·7	7. 3. 41·5	−2·0	
3	10·3	3	12. 55·0		6. 21. 12·8		
4	10·4	4	13. 44·5		3. 56. 21·9		
5	10·1	3	14. 1·7		7. 29. 43·7		
6	10·0	3	15. 43·2		6. 15. 26·2		
7	10·0	3	16. 10·0		7. 55. 23·7		
8	7·9†	3	18. 5·8	0·0	6. 13. 11·0	−0·2	
9	10·3	4	18. 10·8		1. 51. 15·4		
2450	10·3	3	16. 18. 19·6		7. 12. 55·3		
2451	9·1†	3	16. 18. 36·6	+2·1	7. 9. 19·2	+0·4	
2	8·9†	3	19. 25·2	+1·1	8. 55. 58·9	+0·9	
3	10·3	3	19. 35·2		6. 8. 26·6		
4	10·3	4	20. 6·0		3. 14. 18·9		
5	10·3	3	20. 33·6		5. 23. 6·4		
6	10·3	4	21. 21·8		3. 47. 45·3		
7	10·3	3	21. 25·0		6. 13. 3·5		
8	8·5†	3	21. 36·3	+1·2	8. 30. 0·4	+0·1	
9	10·3	4	22. 33·6		3. 43. 51·3		
2460	10·6	3	16. 23. 59·0		6. 12. 45·2		

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No	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2461	8·1†	3	16. 23. 59·7	+1·5	7. 34. 11·0	−0·1	
2	10·3	3	24. 7·6		6. 37. 30·6		
3	9·9	4	24. 9·6		3. 36. 1·0		
4	10·1	3	24. 16·3		8. 40. 30·0		
5	10·3	3	24. 44·3		5. 16. 9·1		
6	9·7	3	25. 12·9		5. 37. 15·0		
7	10·1	3	25. 13·1		8. 49. 59·7		
8	10·1	3	25. 36·2		6. 40. 13·5		
9	10·3	4	25. 40·3		2. 59. 17·8		
2470	10·3	3	16. 26. 35·7		4. 37. 32·0		
2471	9·4	5	16. 26. 39·8	−1·8	2. 8. 47·7	−2·8	
2	10·3	3	27. 18·4		7. 15. 27·5		S. f. of two.
3	9·7	3	27. 20·2		6. 17. 25·2		
4	10·3	3	27. 23·9		8. 26. 16·4		
5	9·0†	3	27. 47·9	+1·7	7. 34. 22·7	−1·9	
6	10·4	4	28. 41·8		3. 13. 31·6		
7	10·3	3	28. 51·8		8. 59. 49·2		
8	8·2†	3	29. 4·1	+1·8	8. 43. 10·3	−1·7	
9	7·7†	3	29. 6·2	−0·1	7. 1. 53·1	−2·9	
2480	10·2	4	16. 29. 29·9		2. 17. 28·8		
2481	9·4	3	16. 30. 41·1		8. 12. 14·1		
2	10·3	3	30. 47·9		7. 13. 8·3		
3	10·3	3	31. 0·9		7. 45. 55·4		
4	9·0	4	31. 20·0	−0·2	3. 50. 40·3	+0·8	
5	10·3	3	31. 48·2		6. 43. 28·1		
6	10·3	3	32. 1·5		7. 38. 36·9		
7	9·7	3	32. 20·7		5. 22. 3·1		
8	10·3	3	32. 30·9		6. 16. 52·1		S. f. of two.
9	9·2†	3	33. 23·6		8. 57. 28·6		
2490	10·3	3	16. 35. 24·9		7. 36. 1·6		
2491	9·7	3	16. 35. 53·7	−0·5	5. 52. 42·6	−4·0	
2	10·3	3	36. 19·8		7. 52. 16·7		
3	9·7	3	36. 22·1		8. 15. 9·9		
4	8·8	5	36. 36·0		1. 32. 31·4		
5	9·7	3	36. 37·1		8. 16. 9·8		
6	10·3	3	36. 45·1		4. 35. 41·7		
7	10·3	4	38. 1·2		3. 34. 0·3		
8	9·1	3	38. 10·0	+1·2	5. 7. 31·2	−2·1	
9	10·3	3	38. 10·7		7. 5. 7·7		
2500	10·3	3	16. 38. 37·7		6. 24. 32·2		
2501	7·4†	3	16. 40. 11·0	+0·4	5. 59. 37·5	−1·5	
2	9·5	3	40. 45·8		7. 49. 1·5		
3	10·3	3	42. 1·3		5. 29. 11·9		
4	10·1	3	42. 33·0		6. 25. 4·7		
5	9·7	3	43. 41·2		8. 1. 19·3		
6	10·1	3	44. 17·7		6. 6. 13·5		
7	10·3	3	44. 25·6		6. 31. 38·9		
8	10·3	3	45. 51·6		4. 17. 53·6		
9	10·3	3	46. 0·7		5. 32. 22·4		
2510	10·0	3	16. 46. 18·1		8. 43. 44·2		
2511	10·3	3	16. 46. 52·6		7. 51. 10·5		
2	10·3	3	47. 9·5		7. 28. 43·4		
3	10·3	3	47. 11·5		8. 25. 44·7		
4	10·3	3	47. 21·6		5. 56. 49·1		
5	9·1	3	47. 37·9	+1·3	5. 43. 5·3	−0·6	
6	9·7	3	47. 50·8		5. 43. 47·3		
7	9·0	5	47. 51·0	−0·2	3. 29. 3·3	+0·8	
8	10·3	3	48. 8·8		4. 50. 45·7		N. p. of two.
9	10·3	3	48. 32·6		5. 23. 36·0		
2520	10·0	3	16. 48. 53·8		6. 57. 21·8		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
2521	10·6	3	16. 49. 15·8		2. 15. 11·8		
2	10·3	3	50. 46·4		8. 49. 16·4		
3	10·6	4	51. 25·6		3. 40. 19·0		
4	9·7	3	51. 40·1		6. 21. 16·2		
5	10·3	3	51. 52·9		8. 42. 31·1		
6	9·7	3	52. 22·2		6. 6. 22·4		
7	10·3	4	52. 47·1		2. 9. 34·2		
8	10·3	3	53. 31·4		8. 32. 52·9		
9	10·0	3	53. 39·3		6. 46. 9·5		
2530	9·9	4	16. 54. 8·7		2. 49. 23·5		
2531	10·3	3	16. 54. 38·3		5. 15. 55·0		
2	10·3	4	54. 54·1		2. 4. 44·6		
3	9·7	4	55. 8·3		1. 28. 6·5		
4	10·1	3	55. 14·9		6. 1. 21·7		
5	10·3	3	55. 21·0		7. 16. 0·3		
6	10·0	3	56. 34·3		4. 25. 9·6		
7	9·1	3	56. 53·1		7. 23. 19·7		N. f. of a double.
8	10·3	4	58. 1·6		1. 44. 10·8		
9	10·0	3	58. 7·6		8. 54. 26·9		
2540	10·1	3	16. 58. 19·3		5. 31. 39·6		
2541	9·7	4	16. 58. 28·0		3. 23. 7·3		
2	8·9	3	58. 31·9		7. 54. 58·3		
3	10·6	3	58. 40·4		8. 16. 8·3		
4	10·3	4	58. 48·4		3. 43. 16·8		
5	10·3	3	59. 4·0		8. 45. 50·0		
6	10·4	4	59. 4·9		4. 3. 8·3		
7	10·3	3	59. 10·2	s	4. 12. 55·3	″	
8	9·0	4	17. 0. 28·0	+1·0	4. 7. 9·1	−2·4	
9	10·3	3	0. 35·5		6. 7. 7·1		
2550	4·5*	3	17. 0. 59·1	+0·4	7. 43. 52·3	−0·8	
2551	10·5	5	17. 1. 15·7		1. 51. 28·4		
2	9·7	3	1. 36·7		7. 50. 30·0		
3	10·3	3	2. 0·5		7. 56. 22·3		
4	9·7	3	2. 3·9	+1·1	8. 29. 43·1	−2·0	
5	10·3	3	2. 37·5		8. 52. 52·7		
6	9·7	3	3. 29·6		6. 5. 26·2		
7	9·4	3	4. 21·0	+1·5	6. 35. 16·8	−1·8	
8	9·4	3	5. 29·2	+0·8	5. 18. 32·0	−2·1	
9	10·3	3	6. 1·0		8. 47. 28·2		
2560	10·3	3	17. 6. 10·1		6. 25. 12·0		
2561	10·3	3	17. 6. 38·2		8. 50. 43·4		
2	10·3	4	6. 42·7		3. 57. 40·6		
3	10·6	4	6. 52·9		2. 24. 20·8		
4	9·9	4	7. 0·9		2. 30. 16·1		
5	8·5	3	7. 20·2	−0·4	5. 6. 20·0	−2·1	
6	10·3	3	7. 37·6		5. 1. 47·3		
7	10·3	3	8. 35·3		7. 45. 5·9		A fainter star follows.
8	7·0†	3	8. 38·4	+0·4	8. 56. 24·2	−0·4	
9	8·8	3	8. 52·4	+0·7	8. 33. 33·9	−1·0	
2570	9·7	3	17. 9. 6·1		6. 36. 10·9		
2571	9·7	3	17. 9. 38·8		4. 58. 2·7		
2	10·3	4	10. 29·5		3. 52. 44·0		
3	10·5	3	10. 51·0		6. 4. 50·8		
4	10·3	3	11. 17·1		5. 18. 17·5		
5	9·7	3	11. 22·3		7. 16. 40·0		
6	10·3	4	11. 30·6		3. 11. 46·3		
7	9·7	3	12. 45·2		6. 37. 9·7		
8	10·0	3	12. 54·0		6. 30. 39·3		
9	9·7	4	13. 19·6		3. 19. 35·1		
2580	10·1	3	17. 13. 21·9		5. 36. 36·0		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2581	9·7	3	17. 13. 42·9		8. 5. 55·4		
2	10·3	3	14. 9·3		5. 18. 1·1		
3	10·3	4	14. 20·3		2. 57. 31·0		
4	10·2	4	14. 35·4		1. 39. 42·9		
5	10·3	4	14. 58·3		3. 47. 41·2		
6	9·7	3	15. 2·4		6. 18. 2·6		
7	9·4	3	15. 9·6		7. 55. 19·7		
8	10·1	3	16. 34·1		8. 56. 3·6		
9	10·3	3	17. 37·5		7. 39. 17·7		
2590	9·7	4	17. 17. 59·7		2. 15. 1·3		
2591	9·5	3	17. 18. 2·9	+0·4	8. 27. 24·5	−2·7	
2	10·0	3	18. 3·0	+2·4	7. 31. 3·8	−1·6	
3	10·6	3	19. 2·3		8. 4. 20·9		
4	10·3	3	19. 43·7		8. 9. 47·1		
5	10·0	3	19. 53·2		7. 19. 56·3		
6	9·7	4	20. 13·7		3. 44. 57·3		
7	9·7	3	20. 18·9		5. 34. 6·0		
8	7·4†	3	21. 3·8	+0·3	5. 3. 9·7	−3·2	
9	9·1†	3	21. 35·3	+0·7	6. 37. 27·2	−2·1	
2600	9·7	4	17. 21. 55·1		2. 25. 57·0		
2601	10·3	3	17. 22. 3·2		6. 50. 34·3		
2	10·0	3	23. 11·8		8. 43. 38·6		
3	10·3	3	23. 49·2		7. 33. 33·6		
4	10·0	3	23. 55·5		8. 33. 6·3		
5	10·4	4	24. 40·0		3. 50. 5·1		
6	8·5†	4	24. 48·6	−1·0	3. 44. 20·2	−3·0	
7	10·6	3	25. 10·2		7. 40. 16·8		
8	10·1	3	25. 43·5		7. 40. 41·3		
9	10·3	3	25. 50·1		5. 29. 59·5		
2610	10·3	3	17. 26. 32·4		6. 24. 19·0		
2611	9·7	3	17. 26. 35·9		8. 12. 44·4		
2	9·9	4	26. 36·4		3. 52. 31·0		
3	10·3	3	26. 48·3		7. 54. 52·9		
4	10·3	3	27. 38·4		8. 14. 20·6		
5	10·3	3	27. 40·4		8. 34. 1·9		
6	10·3	3	27. 49·7		7. 43. 22·8		
7	10·3	3	27. 56·7		6. 27. 14·1		
8	10·3	3	29. 17·1		7. 51. 20·0		
9	10·3	3	29. 50·9		4. 12. 47·2		
2620	10·1	3	17. 30. 7·7		4. 57. 0·8		
2621	10·3	3	17. 30. 12·8		8. 1. 16·2		
2	10·3	3	30. 26·0		5. 53. 42·2		
3	10·3	3	30. 40·2		7. 26. 23·0		
4	9·1†	3	31. 9·4	+0·6	7. 32. 20·2	+0·6	
5	9·7	3	32. 26·9		8. 46. 40·6		
6	10·3	3	32. 27·8		5. 27. 30·5		
7	10·1	3	32. 30·4		7. 17. 34·9		
8	10·1	3	32. 41·2		5. 53. 23·2		
9	9·5	3	32. 47·1	+0·6	8. 30. 8·0	−2·4	There is a fainter star s. p.
2630	9·7	3	17. 32. 58·4		8. 48. 16·3		
2631	9·4	3	17. 33. 31·5	+0·7	6. 33. 8·5	+0·6	
2	9·5	3	34. 6·7		6. 50. 51·1		
3	9·5	3	34. 12·8		6. 36. 46·8		
4	10·3	3	34. 23·2		6. 16. 13·7		
5	10·3	3	34. 36·2		6. 0. 59·9		
6	10·3	3	34. 43·0		7. 17. 49·8		
7	9·7	3	34. 50·0		6. 56. 27·5		
8	8·1†	3	34. 57·6	+0·6	7. 9. 11·8	−8·4	
9	8·7	6	35. 13·2	+2·7	1. 46. 59·9	−2·0	
2640	10·3	4	17. 35. 32·7		3. 20. 18·7		

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No.	Mag.	Obs.	R.A. 1855·0.	C–S.	N.P.D. 1855·0.	C–S.	Notes.
			h m s	s	° ′ ″	″	
2641	9·7	3	17. 35. 35·8	+0·7	8. 30. 19·5	−2·1	
2	7·3†	3	37. 2·8	+1·1	5. 16. 19·8	+1·1	
3	10·1	3	37. 16·6		8. 51. 35·3		
4	9·1	3	37. 27·2	+0·9	9. 2. 8·5	+1·5	
5	10·3	3	37. 31·2		8. 36. 39·7		
6	10·3	3	38. 11·5		8. 50. 38·3		
7	8·9†	3	38. 33·9	+0·2	6. 11. 11·1	−1·6	
8	7·5†	3	38. 58·4	+0·9	6. 33. 28·0	−4·2	
9	10·3	3	39. 52·6		7. 34. 16·5		
2650	9·5	3	17. 39. 57·8	+1·1	7. 17. 58·2	−1·4	
2651	9·7	3	17. 40. 32·9		7. 56. 28·7		
2	10·3	3	40. 44·2		6. 43. 51·4		
3	9·7	3	40. 52·5		7. 36. 37·2		
4	10·3	3	41. 18·5		5. 44. 21·3		
5	9·7	3	42. 0·3		5. 30. 48·7		
6	10·3	3	43. 4·8		5. 49. 13·7		N. f. of two.
7	10·1	3	43. 13·0		7. 14. 50·4		
8	9·7	3	43. 37·4		8. 29. 20·0		
9	10·3	3	43. 48·5		6. 38. 2·3		
2660	10·3	3	17. 44. 34·8		8. 36. 4·4		
2661	10·1	3	17. 44. 39·7		4. 36. 19·3		
2	9·7	3	44. 42·6		7. 22. 17·8		
3	10·3	4	44. 46·5		3. 3. 31·7		
4	9·7	4	45. 27·6		3. 15. 56·8		
5	10·3	3	45. 38·6		4. 6. 57·1		
6	10·3	3	46. 53·5		3. 54. 1·3		
7	10·3	3	47. 46·9		7. 4. 14·8		
8	9·7	3	47. 47·8	+1·4	5. 58. 48·3	−1·5	
9	9·9	4	48. 14·8		3. 58. 23·3		
2670	9·5	5	17. 48. 35·7		3. 1. 57·2		
2671	9·7	3	17. 48. 37·6		8. 29. 42·6		
2	10·3	3	48. 50·5		6. 32. 37·3		
3	8·2†	5	49. 8·3	+0·5	3. 1. 39·3	−0·5	
4	10·6	3	50. 19·0		5. 11. 57·0		
5	10·3	3	51. 9·9		8. 14. 46·3		
6	10·6	3	51. 38·2		6. 20. 23·9		
7	10·6	3	51. 58·5		4. 43. 25·1		S. f. of two.
8	10·3	3	52. 37·1		8. 22. 18·8		
9	9·1†	3	53. 9·9	+0·5	5. 10. 38·2	+1·5	
2680	10·3	3	17. 53. 55·4		6. 11. 28·5		
2681	10·3	4	17. 53. 57·3		3. 44. 50·5		
2	10·3	3	55. 11·8		8. 55. 0·0		
3	10·3	3	55. 13·0		5. 43. 44·6		
4	9·7	3	55. 33·7		4. 48. 52·5		
5	9·7	3	55. 52·8		7. 48. 17·6		
6	10·3	3	55. 52·9		8. 35. 12·7		
7	9·7	3	55. 53·9		8. 14. 10·8		
8	10·3	3	56. 2·6		6. 3. 19·1		
9	9·7	3	56. 8·7		8. 4. 53·1		
2690	10·3	3	17. 56. 30·4		6. 27. 43·8		
2691	10·5	3	17. 56. 32·4		7. 49. 53·6		
2	10·6	3	56. 37·9		7. 27. 47·8		
3	9·1	3	56. 49·3	+1·0	5. 43. 9·4	−1·6	
4	10·1	3	56. 59·1		6. 42. 13·0		
5	9·1	3	57. 5·6	+1·4	9. 1. 23·0	+0·4	
6	10·3	3	57. 35·1		8. 54. 31·0		
7	10·3	3	58. 0·1		5. 27. 59·2		
8	9·7	3	58. 18·6		5. 41. 13·6		
9	10·3	3	59. 9·5		4. 42. 55·9		
2700	10·3	4	17. 59. 16·7		2. 13. 49·7		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2701	10·1	3	17. 59. 30·6		8. 39. 24·9		S. f. of two.
2	9·5	3	59. 42·1		9. 4. 54·8		
3	9·7	3	18. 0. 3·1		5. 49. 6·0		
4	9·7	4	0. 34·4		3. 43. 48·6		
5	10·3	3	0. 41·9		5. 39. 1·0		
6	10·3	3	0. 59·7		8. 50. 20·3		
7	9·7	3	1. 18·7		6. 20. 54·8		
8	10·3	3	1. 21·8		5. 21. 15·0		
9	10·1	4	1. 55·4		3. 36. 55·8		
2710	10·3	3	18. 2. 12·5		6. 50. 45·3		
2711	10·0	3	18. 2. 33·6	+0·9	5. 55. 23·1	+0·5	
2	10·0	3	2. 49·9		5. 55. 45·8		
3	9·7	3	3. 22·4		7. 6. 16·0		
4	9·7	4	3. 44·7		2. 56. 0·2		
5	10·1	3	3. 58·1		8. 46. 55·2		
6	9·4	3	4. 19·9		9. 5. 12·0		
7	9·7	3	4. 23·7		7. 34. 43·8		
8	9·7	3	4. 52·0		8. 50. 56·4		
9	9·7	3	5. 6·4	+0·3	5. 5. 18·5	−0·3	
2720	10·3	3	18. 5. 18·1		8. 8. 20·5		
2721	10·3	3	18. 5. 30·7		7. 41. 39·9		
2	10·3	4	5. 41·2		3. 54. 7·7		
3	10·1	3	6. 14·5		4. 3. 56·1		
4	9·7	3	6. 34·8		4. 25. 45·3		
5	9·4	3	6. 35·5	+0·8	8. 20. 20·9	−2·6	
6	9·5	3	7. 7·5	0·0	8. 41. 19·9	−1·2	
7	10·3	3	7. 24·7		4. 41. 16·3		
8	9·7	3	7. 26·9		6. 19. 36·3		
9	9·4	3	8. 29·0	+0·1	6. 33. 57·4	−5·3	
2730	9·5	3	18. 9. 23·9		8. 25. 29·0		
2731	10·2	4	18. 9. 27·8		2. 48. 40·8		
2	10·5	3	10. 2·5		6. 47. 31·4		
3	10·3	3	10. 14·2		4. 52. 15·9		
4	9·7	3	10. 22·3		5. 20. 20·6		
5	9·1	6	10. 49·7	+0·4	2. 10. 7·2	−0·7	
6	10·1	3	11. 6·1		8. 47. 59·1		
7	10·3	3	11. 8·5		6. 58. 12·0		
8	10·3	3	12. 12·2		5. 24. 44·9		
9	10·3	3	12. 28·3		4. 57. 48·8		
2740	9·3†	4	18. 13. 8·7		1. 18. 39·1		
2741	9·4	3	18. 13. 53·6	−0·5	7. 31. 56·7	−0·3	
2	10·0	3	14. 3·0		5. 6. 31·6		
3	9·1†	3	14. 50·0	−0·9	5. 18. 7·2	−1·7	
4	8·9†	3	15. 13·3	+0·7	5. 36. 25·8	−1·4	
5	10·3	3	15. 30·3		8. 18. 55·3		
6	9·7	3	15. 43·6		5. 20. 55·4		
7	7·4†	3	15. 48·2	−0·1	6. 6. 28·7	+1·1	
8	10·3	3	16. 19·5		8. 50. 11·8		
9	10·3	3	16. 27·8		7. 11. 4·9		
2750	10·3	3	18. 17. 1·5		8. 49. 28·9		
2751	7·5†	3	18. 18. 6·5	+0·6	4. 19. 51·7	+1·3	
2	9·7	4	18. 14·0		2. 2. 38·0		
3	10·1	3	18. 34·5		8. 27. 26·9		
4	10·3	3	19. 5·1		5. 58. 4·2		
5	4·5*	60	19. 6·9		3. 24. 0·6		
6	9·7	3	19. 20·3		8. 33. 45·6		Σ 2326.
7	7·5†	3	19. 22·6	+0·6	8. 33. 31·3	−2·8	Σ 2326.
8	10·5	4	19. 38·7		3. 35. 38·3		
9	10·0	3	20. 0·0		5. 23. 17·0		
2760	10·0	3	18. 20. 2·2		6. 35. 48·7		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
2761	10·1	4	18. 20. 4·1		3. 48. 29·0		
2	9·9	4	20. 17·1		1. 25. 17·5		
3	10·3	3	20. 39·7		4. 44. 26·9		
4	9·7	3	21. 22·3		4. 54. 38·0		
5	10·3	3	21. 40·0		8. 32. 0·2		
6	10·3	4	21. 49·1		1. 55. 50·6		
7	10·3	3	22. 46·6	s	6. 49. 52·7	″	
8	9·0†	3	23. 26·1	+0·7	8. 35. 7·1	−0·3	
9	8·3†	4	24. 11·3	+1·5	2. 35. 50·4	+0·9	
2770	8·0†	4	18. 24. 17·1	+0·5	1. 45. 33·6	−1·0	
2771	5·8*	7	18. 24. 25·6	+2·3	3. 1. 24·1	+0·4	
2	9·7	3	24. 52·7	−0·3	7. 39. 4·1	−4·1	
3	10·5	3	25. 37·0		4. 30. 8·5		
4	10·3	4	26. 13·3		2. 29. 23·4		
5	7·5†	3	26. 44·2	+0·4	8. 35. 38·6	+0·6	
6	10·2	4	27. 7·7		2. 58. 11·7		
7	9·5	3	27. 49·1		9. 1. 17·3		
8	10·0	3	28. 3·2		5. 27. 8·6		
9	7·5†	3	28. 8·0	+0·2	6. 22. 35·6	−1·6	
2780	7·4†	3	18. 28. 36·9	−1·5	7. 7. 45·7	−3·3	
2781	10·6	4	18. 28. 38·9		3. 13. 44·3		
2	9·1	3	28. 55·8	+0·5	5. 40. 47·7	+1·7	
3	10·3	3	28. 56·1		4. 8. 31·7		
4	10·3	3	29. 9·8		5. 11. 26·7		
5	9·7	3	29. 10·6		7. 31. 41·4		
6	9·4	3	30. 58·9	−0·9	6. 49. 24·9	−1·6	
7	10·3	3	31. 46·4		8. 52. 23·4		
8	9·7	3	32. 23·8		6. 29. 3·1		
9	10·3	3	32. 45·6		2. 1. 33·6		
2790	7·4†	3	18. 32. 46·7	+1·6	5. 24. 46·2	+0·3	
2791	9·7	3	18. 33. 33·1		8. 9. 58·8		
2	9·1†	3	33. 52·8	+1·0	7. 13. 6·8	+0·1	
3	8·4†	6	34. 23·7	+2·9	1. 16. 44·0	−0·5	
4	10·3	3	35. 0·6		8. 57. 19·4		
5	9·4	3	35. 2·4	+0·1	7. 47. 12·8	−3·9	
6	9·7	3	35. 11·5	+2·7	6. 2. 3·7	−0·7	
7	10·3	3	35. 26·4		4. 25. 22·0		
8	10·3	3	35. 36·5		8. 14. 39·3		
9	10·3	3	35. 37·0		4. 33. 51·5		
2800	9·1†	3	18. 36. 12·1	+1·0	7. 12. 43·4	−3·5	
2801	9·7	3	18. 36. 33·2		8. 53. 26·2		
2	9·2†	3	36. 37·3	+0·7	6. 16. 8·0	−1·8	
3	10·1	3	36. 41·8		8. 19. 52·4		
4	9·7	3	37. 47·5		4. 36. 11·8		
5	10·1	3	37. 49·9		8. 40. 16·2		
6	10·3	3	38. 14·5		8. 43. 37·7		
7	10·5	3	38. 45·9		4. 31. 49·0		
8	10·0	3	39. 32·9		8. 55. 8·2		
9	10·3	3	39. 43·4		4. 47. 1·9		
2810	8·0†	3	18. 39. 49·0	−0·9	5. 48. 32·1	−4·3	
2811	8·0†	5	18. 40. 9·2	+0·3	3. 30. 11·6	−0·5	
2	10·5	3	40. 20·1		7. 49. 26·9		
3	8·8†	3	40. 26·8	+0·1	7. 24. 19·5	+0·2	
4	10·3	3	40. 35·6		8. 55. 46·5		
5	8·9	3	41. 31·1		5. 33. 1·3		
6	10·3	3	41. 37·2		4. 59. 23·4		
7	8·9	3	42. 17·0	+0·5	5. 29. 27·0	+1·0	
8	10·0	5	42. 30·0		0. 50. 32·0		
9	8·5	4	42. 30·4	+1·5	2. 2. 4·0	−0·6	
2820	7·8†	3	18. 42. 30·6	+0·9	6. 44. 49·2	+0·6	

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2821	10·3	3	18. 42. 46·5		8. 45. 35·6		
2	6·0*	3	43. 11·3	+0·6	6. 56. 30·0	+0·3	
3	10·3	3	43. 41·1		7. 3. 33·1		
4	9·7	3	43. 48·2	+2·2	5. 49. 22·9	−1·9	
5	10·3	3	44. 0·6		5. 54. 53·0		
6	10·3	3	44. 18·8		8. 37. 0·0		
7	10·3	3	44. 48·4		7. 59. 48·6		
8	10·0	3	45. 13·6		4. 59. 41·7		
9	10·3	3	45. 46·2		8. 24. 39·3		
2830	10·6	3	18. 46. 16·9		4. 55. 57·0		
2831	10·3	3	18. 46. 25·7		7. 44. 32·5		
2	10·3	3	46. 47·6		4. 26. 5·3		
3	10·3	3	47. 36·6		7. 50. 6·4		
4	10·3	3	48. 0·2		5. 47. 58·5		
5	10·5	3	48. 17·4		6. 11. 0·9		
6	10·3	3	48. 25·5		6. 27. 33·4		
7	9·9	4	48. 26·6		2. 42. 52·1		
8	9·7	3	48. 45·9		8. 0. 19·2		
9	10·1	3	48. 49·7		7. 25. 50·3		
2840	9·7	3	18. 49. 6·0		8. 13. 32·1		
2841	10·0	3	18. 49. 14·0		8. 47. 32·3		
2	10·3	3	49. 30·7		5. 54. 9·1		
3	10·3	3	49. 43·4		4. 33. 7·5		
4	10·3	3	50. 29·4		7. 1. 45·3		
5	10·3	3	50. 58·3		7. 46. 20·8		
6	10·3	3	51. 10·2		4. 37. 52·8		
7	10·1	3	51. 13·6		8. 50. 54·3		
8	10·2	5	51. 15·1		1. 8. 12·4		
9	9·7	3	52. 0·8		5. 37. 54·3		
2850	10·5	3	18. 52. 18·8		7. 45. 20·7		
2851	10·3	3	18. 52. 48·6		4. 22. 18·8		
2	9·6	5	52. 49·6	−0·5	3. 54. 27·2	−3·6	
3	10·0	3	52. 53·7		7. 50. 44·1		
4	9·7	3	54. 25·1		8. 36. 19·5		
5	10·0	3	54. 32·5		5. 53. 49·3		
6	10·3	3	54. 55·5		7. 45. 43·4		
7	10·3	3	54. 57·9		5. 51. 22·4		
8	9·7	3	55. 7·4		7. 28. 14·5		
9	9·7	3	55. 15·1	+1·1	5. 31. 16·0	−3·5	
2860	10·0	3	18. 55. 29·4		6. 54. 22·3		
2861	10·3	4	18. 56. 48·2		3. 33. 42·3		
2	9·7	3	57. 11·1		5. 57. 4·7		
3	9·1	3	57. 37·5	+1·5	8. 57. 36·7	−1·6	
4	10·3	3	57. 57·0		6. 37. 15·9		
5	9·1†	3	58. 1·6	+0·1	7. 55. 24·3	−2·8	
6	9·7	5	58. 10·4		1. 4. 4·5		
7	10·3	3	58. 41·5		4. 25. 12·6		
8	10·0	3	58. 49·6		8. 25. 49·6		
9	10·3	4	58. 51·8		2. 23. 6·9		
2870	9·2†	3	18. 58. 58·6	+0·9	6. 51. 39·9	+1·9	
2871	10·2	4	18. 59. 23·4		3. 16. 8·6		
2	10·3	3	59. 26·3		4. 14. 56·3		N. p. of two.
3	10·3	4	59. 31·9		3. 28. 45·2		
4	10·3	3	59. 55·4		4. 55. 31·4		
5	10·3	3	59. 59·7		7. 59. 14·9		
6	9·7	3	19. 0. 9·9		6. 31. 22·6		
7	10·3	3	0. 17·0		7. 10. 39·5		
8	10·3	3	0. 26·0		8. 28. 29·3		
9	10·3	3	0. 52·4		4. 5. 53·4		
2880	10·3	3	19. 0. 59·0		6. 2. 26·6		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2881	9·6	4	19. 1. 14·5	+2·1	3. 51. 45·4	−2·8	
2	7·0†	6	1. 36·1	−0·1	3. 28. 45·7	−0·4	
3	10·3	4	1. 43·0		3. 44. 7·0		
4	9·7	3	2. 2·3		6. 38. 50·1		
5	10·3	3	2. 24·7		3. 15. 27·0		
6	10·1	3	2. 33·1		5. 16. 37·3		
7	9·7	3	3. 36·2		7. 28. 44·9		
8	10·3	3	4. 57·1		6. 29. 38·7		
9	10·3	4	5. 15·7		1. 27. 18·7		
2890	10·3	3	19. 5. 40·9		7. 27. 30·4		
2891	10·1	3	19. 6. 19·1		8. 25. 36·9		
2	10·3	3	7. 23·8		7. 0. 52·7		
3	10·5	3	7. 45·0		8. 2. 0·7		
4	10·3	3	8. 9·0		7. 40. 54·5		
5	9·5	3	8. 35·8	+1·6	5. 39. 4·2	+0·7	
6	10·3	3	8. 38·5		7. 31. 24·2		
7	10·1	5	8. 40·3		7. 28. 42·1		
8	10·0	3	8. 46·0		6. 41. 15·7		
9	10·3	3	9. 8·6		4. 38. 48·6		
2900	10·3	1	19. 9. 14·2		7. 29. 46·4		
2901	10·2	5	19. 9. 15·8		3. 31. 46·4		
2	10·1	3	9. 21·0		5. 53. 40·3		
3	6·9†	3	9. 22·7	+0·7	7. 50. 43·7	+0·6	
4	10·3	3	9. 29·0		5. 16. 40·4		
5	10·1	3	10. 5·2		7. 7. 57·8		There is a fainter star to the North.
6	9·5	6	10. 12·4	+0·3	3. 48. 53·1	−2·3	
7	9·7	3	10. 22·4	+4·0	4. 34. 52·2	−0·3	
8	6·9†	3	10. 27·5	+0·9	6. 18. 8·0	+1·0	
9	10·3	4	12. 3·0		4. 5. 30·3		
2910	10·3	3	19. 12. 12·3		7. 56. 56·3		
2911	9·7	3	19. 12. 21·2		8. 31. 16·3		
2	10·3	3	12. 51·9		5. 52. 31·0		
3	9·7	3	14. 5·3		8. 26. 2·2		
4	10·3	3	14. 21·3		5. 20. 4·4		
5	10·3	3	14. 30·7		6. 29. 24·7		
6	10·3	3	15. 31·3		7. 0. 31·7		
7	10·3	3	15. 53·1		8. 1. 38·4		
8	10·3	3	15. 59·0		4. 53. 54·9		
9	10·3	3	16. 25·5		7. 58. 50·6		
2920	7·8†	3	19. 16. 35·0	+0·7	7. 33. 56·7	−3·3	
2921	9·7	3	19. 16. 39·1		8. 53. 4·7		
2	10·4	4	16. 39·4		2. 22. 38·0		
3	9·2†	3	17. 20·3	+1·5	8. 35. 13·5	−1·6	
4	10·3	3	19. 13·6		4. 52. 33·7		
5	10·3	3	19. 27·1		7. 47. 3·4		
6	10·0	3	20. 19·6		4. 36. 26·4		
7	10·2	5	20. 31·5		2. 25. 16·9		
8	10·3	4	21. 3·4		3. 21. 55·5		
9	9·7	3	21. 36·8		4. 21. 31·6		
2930	10·1	3	19. 21. 53·2		6. 24. 21·0		
2931	9·7	3	19. 22. 13·1		5. 0. 32·7		
2	10·2	4	22. 38·7		3. 16. 36·4		
3	9·7	3	23. 15·5		8. 23. 8·7		
4	8·9†	3	24. 2·3	+0·6	8. 59. 41·1	+0·9	
5	9·7	3	24. 10·5		6. 25. 8·0		
6	9·7	4	24. 13·8		1. 56. 39·7		
7	9·7	3	24. 54·7		8. 2. 54·5		
8	10·6	3	25. 14·0		5. 2. 42·8		
9	10·3	3	25. 17·3		5. 1. 12·2		
2940	9·7	3	19. 25. 21·5		7. 43. 52·2		A fainter star s. f.

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
2941	10·0	3	19. 25. 24·5		8. 20. 29·4		
2	9·3	5	25. 37·2	+5·4	1. 26. 6·6	−4·0	
3	10·3	3	25. 40·9		5. 31. 21·8		
4	10·3	3	25. 42·3		8. 38. 14·5		
5	10·3	3	27. 38·1		7. 38. 30·8		
6	10·3	4	27. 49·7		2. 28. 11·8		
7	8·1†	3	27. 57·1	+0·2	8. 38. 0·4	−0·5	
8	8·0†	3	28. 18·7	+0·5	8. 20. 49·6	+1·5	
9	9·7	3	28. 32·5	+0·4	5. 39. 41·8	−0·1	
2950	10·3	3	19. 28. 41·3		7. 13. 44·3		
2951	10·3	3	19. 28. 49·5		7. 46. 5·3		
2	9·7	3	28. 52·3		8. 7. 30·2		
3	9·6	4	28. 58·2		3. 35. 21·9		
4	9·7	3	29. 6·4		8. 42. 38·4		
5	10·3	4	29. 20·8		2. 49. 10·5		
6	10·6	3	29. 22·7		8. 56. 9·0		
7	10·1	3	29. 39·4		8. 34. 16·5		
8	10·1	3	30. 9·5		4. 30. 26·1		
9	8·3†	5	30. 49·0	+1·0	2. 55. 42·7	−3·1	
2960	9·7	3	19. 31. 28·4		8. 10. 7·1		
2961	10·3	3	19. 32. 1·6		6. 40. 32·7		
2	7·7†	3	32. 41·4	0·0	8. 30. 1·4	+1·6	
3	10·3	3	32. 56·4		7. 32. 1·1		
4	9·7	3	32. 58·7	−0·1	5. 29. 58·4	+0·1	
5	6·4†	3	33. 25·3	+0·1	6. 49. 42·0	+1·3	
6	9·5	4	33. 33·4	+1·4	3. 30. 22·2	−2·7	
7	10·3	4	33. 44·5		3. 4. 48·6		
8	10·1	3	33. 55·5		6. 35. 0·0		
9	9·1†	3	34. 18·4	+0·7	8. 33. 20·6	+5·2	
2970	10·3	3	19. 34. 36·0		5. 51. 15·3		
2971	9·7	3	19. 35. 36·6		6. 29. 46·3		
2	10·3	3	35. 48·3		7. 42. 17·9		
3	8·5†	5	36. 5·5	+1·2	2. 24. 19·0	−2·5	
4	10·3	3	36. 32·0		8. 5. 22·8		
5	10·5	3	36. 46·9		4. 25. 53·0		
6	9·7	5	37. 15·5		1. 55. 54·1		Σ 2614 (?)
7	10·3	5	37. 46·3		0. 47. 7·5		
8	10·5	3	38. 0·0		4. 56. 37·5		
9	9·7	3	38. 12·6	+2·3	7. 23. 51·9	+0·9	
2980	9·5	3	19. 39. 49·7		8. 10. 28·3		
2981	10·3	3	19. 39. 52·8		6. 3. 8·3		
2	10·3	3	40. 0·2		7. 41. 18·4		
3	9·4.	3	40. 28·9	+1·7	6. 1. 14·0	−2·2	
4	10·3	3	40. 39·1		8. 27. 4·1		
5	8·8	3	41. 15·9		7. 32. 53·0		
6	10·3	3	41. 35·3		8. 13. 48·6		
7	10·0	3	42. 11·9		7. 34. 22·7		
8	10·3	3	42. 34·4		8. 54. 30·8		
9	8·5†	3	44. 3·4	+2·5	4. 13. 16·6	−1·8	
2990	9·0†	3	19. 45. 47·7	+0·7	4. 13. 33·6	+1·6	
2991	10·3	3	19. 45. 55·1		6. 56. 46·3		
2	10·3	3	46. 7·4		5. 30. 17·8		
3	10·3	3	46. 41·0		8. 6. 31·9		
4	10·3	4	47. 20·8		3. 17. 20·4		
5	9·7	3	47. 22·3		8. 59. 39·8		
6	9·7	3	48. 38·3		8. 45. 12·1		
7	10·1	3	48. 42·5		8. 29. 17·5		
8	10·3	3	49. 22·4		6. 43. 42·9		
9	10·3	3	49. 24·4		5. 45. 6·3		
3000	9·2†	3	19. 49. 58·1		4. 10. 48·9		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
3001	9·7	3	19. 50. 6·7		5. 46. 1·2		
2	10·3	3	50. 26·4		8. 4. 24·4		
3	9·9	4	50. 38·3		3. 11. 40·8		
4	9·1	3	50. 40·5	+0·6	7. 0. 21·3	+0·4	
5	10·0	3	50. 56·3		6. 34. 2·3		
6	9·7	3	51. 1·0		8. 2. 58·7		
7	10·3	4	51. 3·2		3. 34. 28·6		
8	9·7	3	51. 32·6		5. 52. 0·6		
9	10·3	3	51. 49·1		5. 37. 43·5		
3010	10·3	4	19. 51. 50·3		3. 28. 30·6		
3011	10·1	3	19. 51. 53·2		4. 58. 12·3		
2	10·3	3	52. 8·7		8. 17. 39·2		
3	10·1	4	52. 22·5		3. 56. 0·2		
4	10·3	3	53. 51·6		6. 54. 23·1		
5	9·1	4	54. 1·0		3. 22. 41·6		
6	10·3	3	54. 8·3		8. 56. 22·2		S. f. of two.
7	10·5	3	54. 13·2		8. 19. 56·3		
8	10·1	3	54. 41·8		9. 2. 49·6		
9	10·3	3	54. 55·5		6. 6. 36·6		
3020	10·0	3	19. 55. 55·5		8. 41. 51·3		
3021	10·3	3	19. 56. 1·1		6. 17. 49·4		
2	9·5	3	56. 3·4		9. 4. 33·1		
3	9·9	7	56. 5·1		0. 44. 44·1		
4	10·3	3	56. 15·8		8. 34. 55·6		The second of two.
5	10·3	3	56. 31·4		8. 38. 54·4		
6	10·3	3	57. 9·3		6. 28. 8·1		
7	10·3	3	57. 20·9		8. 46. 1·8		
8	10·3	3	58. 27·7		6. 29. 59·7		
9	10·3	4	58. 28·1		3. 51. 18·0		
3030	9·7	3	19. 58. 41·2		7. 15. 15·8		
3031	8·0†	3	19. 59. 23·8	+1·9	8. 48. 1·1	+0·2	
2	10·5	3	59. 27·6		7. 41. 49·1		
3	10·1	3	20. 0. 22·3		5. 48. 29·4		
4	9·1†	3	0. 29·9	+0·3	5. 35. 54·7	+1·8	
5	10·3	4	0. 56·5		3. 48. 33·6		
6	9·7	3	1. 11·4		7. 22. 21·7		
7	10·3	3	1. 30·2		8. 26. 8·6		
8	10·3	5	1. 39·2		2. 8. 25·1		
9	10·3	3	1. 56·1		6. 3. 48·1		
3040	10·3	3	20. 2. 21·9		4. 45. 27·7		
3041	8·0†	3	20. 2. 53·0	0·0	7. 56. 17·9	+0·8	
2	10·3	3	3. 14·3		4. 39. 24·3		
3	9·2†	3	3. 22·5	+2·6	5. 39. 10·5	−2·7	
4	10·3	4	3. 40·5		3. 14. 0·9		
5	10·3	3	4. 4·3		7. 20. 21·6		
6	10·3	4	4. 27·8		3. 54. 59·6		
7	10·3	3	5. 16·3		7. 36. 22·8		
8	10·3	4	5. 26·5		3. 43. 28·7		
9	9·1	3	5. 58·6		8. 30. 38·3		
3050	10·3	3	20. 6. 4·0		7. 48. 13·9		
3051	9·7	3	20. 6. 29·9		4. 19. 3·1		
2	10·3	3	6. 31·4		7. 40. 13·3		
3	10·0	3	6. 42·2		6. 31. 50·7		
4	9·7	3	7. 51·6		8. 15. 50·3		
5	9·1	6	7. 53·4		3. 44. 21·2		
6	10·3	3	8. 2·4		7. 54. 2·2		
7	10·3	3	8. 8·7		5. 28. 54·4		
8	6·5†	27	8. 29·9	−2·6	1. 7. 27·4	−0·5	
9	10·3	3	8. 41·8		7. 6. 26·7		S. f. of two.
3060	10·1	4	20. 8. 49·1		2. 0. 15·1		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
3061	10·3	3	20. 9. 7·9		6. 10. 22·8		
2	10·3	3	9. 29·2		4. 33. 52·0		
3	9·7	3	10. 14·0		8. 46. 44·8		
4	10·3	3	10. 18·3		8. 28. 58·4		
5	10·3	3	10. 56·0		7. 46. 40·7		
6	10·5	3	11. 7·2		8. 48. 40·8		
7	9·7	3	11. 40·1	+1·2	4. 31. 48·9	+2·8	
8	9·7	3	11. 44·7		5. 41. 57·3		
9	10·3	3	11. 51·4		3. 44. 45·9		
3070	10·4	4	20. 11. 56·1		2. 5. 56·5		
3071	9·7	3	20. 12. 3·1		6. 9. 7·0		
2	9·7	3	12. 24·1	−0·1	7. 6. 28·1	+0·9	
3	9·7	3	12. 27·2		7. 6. 23·9		
4	9·7	3	12. 47·7		8. 23. 29·0		
5	10·3	3	12. 53·5		4. 30. 53·5		
6	9·5	7	14. 8·4		2. 14. 23·6		
7	9·7	3	14. 33·2	+0·9	7. 0. 36·3	+1·9	
8	10·1	4	15. 13·5		2. 26. 15·3		
9	10·3	4	15. 37·6		3. 59. 47·9		
3080	9·7	3	20. 16. 11·2		4. 21. 47·9		
3081	9·1	3	20. 17. 9·2	+0·5	7. 35. 56·5	−1·4	
2	8·3†	4	17. 9·6		1. 26. 27·1		
3	10·1	3	17. 44·8		8. 56. 42·4		
4	10·3	3	17. 50·4		8. 13. 10·3		
5	10·3	3	17. 53·3		5. 7. 52·1		
6	9·1	3	18. 30·2		8. 59. 16·3		
7	7·3†	3	19. 1·4	+1·2	8. 13. 39·8	+0·4	
8	10·2	4	19. 1·7		6. 56. 51·2		
9	10·3	3	19. 37·8		5. 30. 37·3		
3090	10·3	3	20. 19. 49·6		8. 20. 29·6		
3091	7·0†	3	20. 20. 0·2	−0·1	5. 45. 46·6	+0·8	
2	10·3	4	21. 0·4		3. 59. 35·6		
3	10·0	3	21. 28·3		5. 25. 4·4		
4	8·9†	3	21. 37·5	0·0	4. 40. 9·1	−6·1	
5	10·3	3	21. 55·5		8. 53. 3·3		
6	10·3	3	22. 7·4		8. 38. 47·9		
7	10·3	3	22. 15·4		4. 20. 51·2		
8	10·3	3	22. 31·0		5. 23. 1·6		
9	9·7	3	22. 40·9		5. 5. 20·5		
3100	10·0	3	20. 22. 48·9		6. 15. 35·2		
3101	10·3	3	20. 23. 6·9		5. 36. 4·3		
2	10·1	3	23. 33·5		5. 16. 24·2		N. f. of two.
3	9·1	3	23. 42·0	+1·1	6. 15. 21·0	−0·4	
4	9·7	3	23. 45·8		6. 51. 40·6		
5	10·3	4	24. 15·2		3. 51. 9·1		
6	8·8†	4	24. 15·3	+4·0	1. 33. 41·4	+1·4	
7	10·3	3	24. 35·0		7. 1. 24·9		
8	10·3	3	25. 36·3		8. 2. 3·6		
9	10·3	3	26. 3·8		8. 39. 8·1		
3110	10·3	4	20. 26. 56·0		3. 39. 41·2		
3111	10·3	3	20. 27. 7·1		4. 39. 50·6		
2	10·5	3	27. 14·3		5. 14. 29·6		N. p. of two.
3	10·3	4	27. 25·9		3. 34. 25·2		
4	10·0	3	28. 4·1		4. 58. 14·3		
5	10·3	3	28. 24·9		6. 37. 21·9		
6	10·0	3	28. 33·8		5. 45. 9·8		
7	10·2	4	28. 46·2		1. 13. 56·9		
8	9·7	3	28. 47·3	+0·5	7. 25. 19·0	+2·2	
9	10·3	3	28. 52·0		8. 1. 57·9		
3120	8·7†	3	20. 29. 12·2	−0·3	5. 22. 4·9	−0·8	

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
3121	10·3	3	20. 29. 35·3		4. 43. 13·5		
2	9·7	3	29. 50·5		7. 55. 16·7		
3	6·7†	3	29. 58·9	+1·6	5. 55. 20·1	−1·0	
4	10·5	3	30. 2·4		6. 53. 25·2		
5	9·7	5	30. 17·2		4. 4. 35·8		
6	10·3	3	30. 25·5		4. 12. 13·4		
7	10·3	3	30. 50·8		6. 31. 40·6		
8	7·6†	3	30. 57·3	−1·2	5. 20. 17·9	−1·3	
9	9·7	3	31. 7·4		6. 29. 18·9		
3130	10·3	3	20. 31. 10·0		6. 4. 47·3		
3131	10·3	3	20. 31. 58·8		6. 36. 25·1		
2	9·7	3	31. 59·1		6. 19. 8·3		
3	7·1†	3	32. 3·4	+1·3	8. 6. 41·8	+2·0	
4	8·0†	3	33. 5·3	+0·9	7. 38. 8·1	+0·6	
5	10·3	3	33. 16·9		7. 56. 12·3		
6	9·7	3	33. 46·9		6. 11. 31·9		
7	10·3	3	34. 33·0		5. 16. 45·9		
8	8·5†	6	34. 37·1	+14·9	1. 18. 59·1	−3·1	Proper motion.
9	10·3	3	35. 21·8		8. 21. 46·3		
3140	7·0†	3	20. 35. 47·7	+1·1	9. 3. 42·3	−1·8	
3141	9·2†	3	20. 35. 52·8		4. 11. 55·4		
2	10·3	3	36. 3·3		5. 48. 38·9		
3	9·7	3	36. 20·2		6. 29. 55·0		
4	10·3	3	36. 20·2		6. 21. 21·9		
5	10·3	3	36. 33·3		6. 22. 35·3		
6	9·7	3	36. 43·2		4. 32. 59·4		
7	10·3	3	36. 58·0		6. 14. 3·2		
8	10·3	3	37. 1·2		7. 24. 25·6		
9	5·5*	3	37. 8·5	+0·9	9. 4. 36·7	−1·4	
3150	9·7	3	20. 37. 13·5		6. 55. 33·0		
3151	10·0	3	20 37. 18·3		4. 52. 45·1		
2	7·2†	3	38. 12·8	−0·4	7. 18. 49·0	−1·4	
3	9·7	3	38. 24·2		8. 47. 33·1		
4	10·3	3	38. 35·2		6. 51. 24·2		
5	10·3	3	39. 14·2		5. 29. 41·1		
6	9·7	3	40. 0·6		7. 32. 45·7		
7	10·3	3	40. 35·0		7. 29. 6·0		
8	10·3	4	40. 38·6		3. 2. 59·2		
9	10·3	3	40. 50·9		5. 6. 39·5		
3160	8·4†	5	20. 41. 16·9	+0·1	2. 31. 7·1	+0·7	
3161	8·9†	2	20. 41. 28·3	+1·5	8. 34. 11·0	−1·6	
2	9·1†	4	41. 33·0		8. 38. 28·9		
3	6·2*	3	43. 11·3	+0·9	6. 52. 57·0	+1·9	{ The second and brighter of two stars.
4	10·3	3	43. 28·2		7. 48. 34·9		
5	10·3	3	43. 34·3		6. 59. 52·6		
6	7·1†	3	44. 23·9	+0·2	8. 30. 30·2	−0·3	
7	10·3	4	44. 51·9		5. 56. 57·6		
8	10·3	3	44. 55·3		7. 18. 18·3		
9	10·1	3	45. 12·2		6. 53. 11·0		
3170	10·1	3	20. 45. 17·3		6. 31. 2·2		
3171	10·3	3	20. 45. 18·2		5. 52. 42·4		
2	10·3	3	45. 33·1		8. 30. 42·6		
3	9·7	3	46. 5·4		7. 37. 40·9		
4	10·3	3	47. 36·2		8. 9. 48·6		
5	10·3	3	47. 54·9		4. 39. 58·5		
6	9·7	3	48. 8·5		7. 48. 5·4		
7	10·3	3	48. 23·8		7. 7. 18·6		
8	10·3	3	48. 56·1		7. 8. 48·7		
9	10·3	3	49. 33·3		8. 53. 59·6		
3180	10·3	4	20. 50. 4·0		3. 54. 7·3		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
3181	9·7	3	20. 50. 4·4		8. 1. 28·3		
2	10·3	3	50. 21·7		8. 43. 42·1		
3	10·3	3	50. 45·9		7. 27. 37·6		
4	10·3	3	50. 53·1		6. 9. 2·5		
5	9·7	3	51. 1·5	s	4. 31. 29·0	″	
6	9·1†	3	51. 29·3	+1·2	7. 29. 11·2	−0·7	
7	10·3	4	51. 52·5		3. 54. 23·5		
8	9·7	3	52. 5·2		5. 43. 51·9		
9	5·7*	3	52. 48·4	+1·0	8. 0. 33·6	+1·2	
3190	10·1	3	20. 52. 52·1		7. 52. 36·8		
3191	10·3	3	20. 53. 9·8		5. 12. 58·6		
2	10·5	3	53. 57·4		8. 22. 33·0		
3	9·4	5	53. 59·2		1. 55. 19·0		
4	9·7	3	54. 7·4		7. 53. 6·5		
5	9·5	3	55. 0·7		7. 38. 37·2		
6	10·1	3	55. 8·8		4. 30. 37·4		
7	10·3	3	55. 18·7		5. 22. 2·9		
8	9·6	4	55. 38·5		4. 3. 39·9		
9	10·3	3	56. 25·2		5. 2. 14·6		
3200	7·9†	3	20. 56. 27·1	+0·4	4. 52. 44·8	+0·2	
3201	9·7	3	20. 56. 35·7		6. 51. 0·7		
2	8·9	3	57. 42·6	−0·1	6. 48. 49·3	−0·9	
3	9·1	3	58. 3·5		8. 43. 45·5		
4	10·3	4	58. 6·5		1. 39. 12·7		
5	9·2†	3	58. 9·0	+0·6	5. 55. 50·7	0·0	
6	10·1	3	58. 12·3		7. 21. 43·2		
7	9·7	3	58. 43·3		4. 42. 14·8		
8	10·3	3	59. 7·3		6. 13. 47·3		
9	10·3	3	59. 7·5		4. 32. 44·7		
3210	10·3	3	20. 59. 11·6		8. 16. 6·6		
3211	10·3	3	20. 59. 22·3		8. 46. 49·1		
2	10·3	3	59. 58·9		5. 19. 3·2		
3	10·3	3	21. 1. 1·7		7. 56. 19·5		
4	10·3	3	1. 37·0		8. 17. 21·8		
5	9·9	4	2. 47·8		2. 32. 6·4		
6	7·3†	3	2. 48·6	+0·6	6. 37. 25·9	−3·8	
7	8·1†	3	2. 56·9	−0·2	8. 45. 49·9	−1·7	
8	9·5	3	4. 45·5		4. 59. 26·8		
9	9·7	3	5. 35·9		7. 7. 28·4		A fainter star precedes.
3220	10·1	3	21. 6. 24·3		9. 1. 47·7		
3221	10·3	3	21. 6. 57·4		4. 38. 35·8		
2	9·7	3	6. 59·5		7. 34. 54·3		
3	10·3	3	7. 0·7		6. 56. 48·2		
4	10·3	3	7. 8·3		5. 21. 3·3		
5	8·2†	3	8. 22·7	+0·6	7. 35. 31·1	−1·4	
6	10·3	3	8. 23·4		5. 54. 50·2		N. f. of two.
7	10·3	3	9. 1·1		6. 19. 49·6		
8	10·3	3	9. 36·1		6. 27. 49·8		
9	10·3	3	11. 40·8		8. 35. 24·8		
3230	10·1	4	21. 11. 58·2		2. 4. 0·3		
3231	10·3	3	21. 12. 3·7		8. 50. 55·3		
2	8·3†	3	12. 36·1	+1·1	4. 42. 31·0	−2·0	
3	10·0	3	12. 54·0		6. 27. 39·9		
4	9·7	3	13. 2·2		7. 0. 58·4		
5	9·1†	3	13. 24·4	+0·9	8. 18. 20·7	−1·4	
6	9·1†	3	13. 36·3	−0·4	8. 14. 49·9	+0·5	
7	9·7	3	13. 42·3		5. 17. 51·0		
8	10·3	3	13. 51·2		7. 19. 54·5		
9	10·3	4	14. 15·1		1. 39. 38·8		
3240	9·5	4	21. 14. 20·2		3. 40. 50·4		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
3241	9·9	4	21. 14. 53·2		1. 37. 53·6		
2	10·3	3	16. 4·3		8. 16. 16·5		
3	10·3	3	16. 16·2		7. 2. 34·7		
4	10·0	3	16. 34·9		7. 46. 20·0		
5	9·7	3	17. 27·7		7. 50. 33·6		
6	10·3	3	18. 25·5		8. 18. 49·7		
7	10·3	3	19. 36·7		7. 12. 50·6		
8	10·1	4	19. 38·5		2. 18. 50·3		
9	10·3	3	19. 46·0		5. 48. 1·9		
3250	10·3	3	21. 19. 56·7		9. 4. 51·9		
3251	9·7	3	21. 20. 10·1		7. 34. 37·4		
2	10·3	3	20. 11·9		5. 5. 19·9		
3	10·3	3	20. 43·3		6. 43. 14·4		
4	10·3	3	20. 53·9		5. 9. 35·7		
5	10·3	3	21. 17·6		8. 25. 23·8		
6	9·5	4	21. 27·8		2. 17. 39·7		
7	10·3	3	21. 58·9		8. 32. 36·4		
8	10·3	3	22. 8·9		7. 31. 36·6		
9	10·0	5	22. 18·0		1. 51. 50·0		
3260	9·7	4	21. 22. 50·4		3. 51. 58·4		
3261	7·6†	3	21. 23. 32·8	+0·3	8. 51. 30·8	−1·5	
2	10·3	3	23. 45·7		5. 45. 38·7		
3	7·6†	3	24. 41·0	−0·1	8. 36. 8·5	−1·4	
4	7·2†	3	25. 0·4	+0·8	6. 21. 26·4	−1·1	
5	10·3	3	25. 1·1		5. 23. 9·1		
6	8·0†	3	25. 10·2		8. 6. 26·2		Seen double. Σ 2807. (2″·4). The mean taken.
7	9·1	5	25. 18·7		2. 30. 27·5		
8	9·7	3	25. 41·1		8. 54. 32·9		
9	10·1	3	26. 21·7		9. 2. 3·8		
3270	8·1†	9	21. 26. 24·5		3. 3. 16·9		
3271	10·3	3	21. 27. 22·7		6. 14. 57·9		
2	9·7	3	27. 29.1		8. 35. 13·8		
3	7·5†	19	27. 40·8	+0·5	3. 34. 15·9	−0·3	
4	10·3	3	27. 58·2		6. 2. 6·4		
5	10·3	3	28. 3·3		6. 8. 20·4		
6	9·6	4	28. 10·0		1. 46. 51·5		
7	9·7	3	28. 25·3		4. 56. 53·9		
8	10·3	3	28. 28·3		5. 58. 47·7		
9	10·3	4	28. 46·3		3. 16. 20·4		
3280	10·3	4	21. 29. 15·1		3. 35. 20·2		
3281	10·3	3	21. 29. 52·5		4. 13. 16·1		
2	10·3	3	29. 55·2		8. 0. 38·6		
3	7·8†	3	30. 12·1	+0·5	7. 39. 10·5	+0·5	
4	10·5	3	30. 18·1		6. 32. 50·5		
5	9·1	3	30. 37·9		6. 0. 18·2		
6	10·0	3	30. 38·6		7. 1. 29·6		
7	10·3	3	30. 55·9		8. 25. 14·6		
8	10·0	3	31. 44·8		5. 38. 19·2		
9	9·7	3	32. 20·5		6. 24. 34·8		
3290	7·9†	3	21. 32. 22·1		8. 54. 4·6		
3291	8·9†	3	21. 32. 31·6	+0·8	7. 21. 12·1	+0·2	
2	10·3	4	32. 48·4		1. 27. 35·3		
3	10·3	3	33. 14·7		6. 22. 40·3		
4	9·5	5	33. 18·9		2. 42. 27·6		
5	10·3	4	33. 19·0		4. 5. 59·6		
6	10·3	3	33. 34·6		6. 0. 24·7		The north star of two.
7	9·4	3	33. 35·0	−0·1	7. 4. 9·0	−1·9	
8	9·7	3	34. 1·1		8. 9. 1·3		
9	10·3	3	34. 5·7		5. 31. 39·8		
3300	10·1	3	21. 34. 30·2		7. 56. 55·6		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
3301	8·9†	3	21. 34. 35·9	−0·2	7. 12. 20·1	−0·8	
2	10·3	3	34. 47·6		5. 47. 5·1		
3	10·0	3	35. 0·1		5. 1. 8·2		
4	9·5	3	35. 19·9		8. 26. 45·1		
5	10·3	1	35. 27·3		3. 21. 20·0		
6	10·3	3	35. 35·5		8. 23. 34·0		
7	10·3	4	35. 47·5		1. 35. 58·8		
8	10·3	3	36. 38·6		5. 8. 23·9		
9	9·0†	3	38. 5·5	+1·4	6. 48. 2·8	−2·0	
3310	10·3	3	21. 38. 14·0		5. 43. 17·3		
3311	10·3	3	21. 38. 15·3		8. 13. 9·8		
2	10·3	3	38. 53·3		8. 45. 52·9		
3	10·3	3	40. 4·0		5. 26. 50·5		
4	10·3	3	40. 4·7		7. 23. 8·1		
5	9·7	3	40. 41·0		8. 4. 40·3		
6	10·1	3	41. 21·6		8. 1. 10·7		
7	10·3	5	41. 32·7		1. 55. 29·6		
8	8·0†	3	42. 9·5	+1·1	6. 42. 20·5	−0·7	
9	9·7	3	42. 19·1		7. 35. 8·1		
3320	9·7	3	21. 42. 24·0		7. 39. 54·2		
3321	9·7	3	21. 42. 40·4		5. 29. 10·3		
2	9·7	3	43. 35·0		4. 20. 11·9		
3	8·3†	3	43. 45·7	−0·2	7. 44. 20·3	+3·4	Seen double. Σ 2837 (2″·2). The mean taken.
4	9·5	3	43. 59·9		8. 33. 1·1		
5	10·0	3	44. 2·6		8. 50. 51·6		
6	9·7	3	44. 13·6		8. 39. 28·9		
7	10·3	3	45. 20·5		7. 0. 26·9		
8	9·7	3	45. 26·7		7. 55. 46·3		
9	9·7	3	45. 29·5		6. 19. 50·0		
3330	10·3	3	21. 45. 58·4		7. 13. 23·7		
3331	10·3	3	21. 46. 16·2		7. 2. 4·0		
2	10·3	3	47. 20·0		7. 55. 35·8		
3	9·7	3	47. 33·4		8. 1. 45·5		
4	9·1†	3	48. 27·3	−0·3	6. 21. 16·5	+0·4	
5	10·3	3	48. 46·1		8. 32. 57·2		
6	9·7	3	49. 12·2		8. 19. 16·8		
7	9·1†	3	49. 49·1	+5·6	6. 20. 26·3	−1·2	
8	10·3	3	49. 53·8		8. 7. 28·4		
9	10·3	3	50. 0·9		5. 48. 42·3		
3340	10·3	3	21. 50. 11·2		5. 36. 33·5		
3341	10·2	4	21. 50. 24·7		3. 52. 50·6		
2	10·1	3	50. 25·9		8. 26. 10·5		
3	8·3†	3	50. 43·9	−0·1	7. 35. 53·0	−2·2	
4	10·3	3	51. 35·3		4. 45. 52·3		
5	9·5	4	51. 42·2	+0·5	4. 7. 5·7	+0·4	
6	7·2†	3	52. 42·4	+1·7	6. 38. 27·3	−0·2	
7	8·9†	5	52. 48·4	+1·4	3. 39. 47·3	+0·7	
8	10·3	3	53. 1·9		8. 57. 46·4		
9	9·7	3	53. 3·0		8. 12. 28·2		
3350	9·7	3	21. 53. 26·1		7. 38. 55·9		
3351	9·6	4	21. 53. 31·7		3. 47. 54·0		M M 2858.
2	9·6	4	53. 35·7		3. 48. 8·9		M M 2858.
3	9·1†	5	53. 37·3		3. 54. 15·7		
4	10·3	3	54. 5·1		7. 0. 56·7		
5	10·3	3	54. 6·7		7. 49. 3·5		
6	10·2	4	54. 16·3		2. 54. 4·9		
7	10·3	3	54. 47·1		5. 28. 14·2		
8	10·8	2	54. 52·2		5. 45. 35·0		
9	10·0	5	55. 33·6		3. 56. 10·5		
3360	9·3†	3	21. 55. 51·5	+2·3	4. 14. 4·4	+3·7	

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No.	Mag.	Obs.	R.A. 1855·0.	C − S.	N.P.D. 1855·0.	C − S.	Notes.
			h m s		° ′ ″		
3361	10·6	3	21. 55. 59·7		5. 17. 46·5		
2	10·3	3	56. 14·2		4. 46. 10·0		
3	8·2†	3	56. 27·7		7. 13. 50·2		
4	10·3	3	56. 33·3		6. 28. 56·4		
5	10·1	3	56. 58·1		7. 3. 18·9		
6	10·3	3	57. 14·0	s	7. 29. 47·6	″	
7	9·1†	3	57. 35·8	+0·3	6. 39. 2·5	+0·2	
8	10·2	4	57. 56·6		2. 43. 50·4		
9	10·1	4	58. 6·6		3. 53. 24·1		
3370	10·0	3	21. 58. 32·3		4. 18. 57·2		
3371	9·7	3	21. 59. 18·8		4. 41. 46·0		
2	9·4	3	59. 44·0		4. 46. 49·6		
3	9·7	3	22. 0. 11·7		8. 23. 51·0		
4	10·3	4	0. 40·2		1. 18. 14·8		
5	10·3	2	0. 47·7		4. 2. 53·0		
6	9·7	4	0. 51·9		2. 14. 53·8		
7	9·7	3	1. 0·6		7. 36. 40·6		
8	10·3	3	1. 7·2		8. 39. 13·1		
9	10·3	3	1. 49·6		9. 3. 34·6		
3380	10·3	3	22. 1. 55·4		5. 35. 25·7		
3381	10·0	3	22. 2. 9·2		7. 22. 51·2		
2	10·0	3	2. 11·0		5. 52. 17·1		
3	9·7	3	2. 40·2		8. 51. 16·7		
4	10·3	3	2. 50·7		4. 49. 56·9		
5	10·2	6	2. 59·9		4. 2. 20·8		
6	7·7†	3	3. 9·2	+0·5	7. 12. 24·6	+1·7	
7	7·5†	3	3. 11·5	−1·7	7. 49. 45·9	+1·8	Σ 2873.
8	10·3	3	3. 14·7		4. 51. 18·2		
9	7·5†	3	3. 18·3	−1·9	7. 49. 42·7	+2·0	Σ 2873.
3390	10·0	3	22. 4. 7·8		6. 26. 55·6		
3391	10·3	3	22. 5. 4·6		7. 9. 51·9		
2	9·7	3	5. 12·4		5. 30. 35·4		
3	9·7	3	5. 38·5		4. 49. 56·7		
4	10·3	3	5. 45·3		8. 21. 0·0		
5	9·7	3	5. 55·0		6. 21. 35·5		
6	10·3	3	5. 57·5		6. 9. 7·0		
7	10·3	3	6. 15·0		6. 37. 10·9		
8	10·3	1	6. 37·5		3. 48. 23·2		
9	10·3	3	6. 45·9		5. 53. 0·0		
3400	7·8†	5	22. 6. 57·0	+3·0	2. 54. 12·3	+0·7	
3401	10·3	3	22. 8. 5·6		4. 51. 40·8		
2	9·7	3	8. 12·0		4. 35. 9·3		
3	10·0	3	8. 19·0		7. 59. 21·5		
4	10·3	3	8. 32·7		8. 7. 12·0		
5	10·3	3	9. 4·4		4. 35. 59·5		
6	10·3	3	9. 15·7		5. 56. 8·8		
7	10·3	3	9. 22·4		8. 13. 0·6		
8	8·2†	3	9. 59·1	+0·1	8. 3. 10·1	−0·7	
9	10·1	3	9. 59·8		7. 55. 34·4		
3410	10·3	3	22. 10. 11·4		8. 32. 18·8		
3411	9·5	4	22. 10. 45·9		1. 50. 15·4		
2	10·1	5	10. 59·3		3. 53. 57·5		
3	10·3	3	11. 6·8		7. 12. 22·2		
4	9·7	3	11. 16·2		6. 57. 5·9		
5	10·3	3	12. 17·0		7. 56. 46·3		
6	9·7	3	13. 50·0		6. 38. 7·2		
7	10·3	3	13. 55·1		4. 44. 39·6		
8	9·1†	3	14. 7·1	−0·1	7. 8. 15·6	−1·0	
9	10·3	3	14. 7·8		7. 3. 42·9		
3420	10·3	3	22. 14. 50·2		4. 33. 27·2		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s		° ′ ″		
3421	9·7	3	22. 15. 31·0	s	6. 55. 42·4	″	
2	8·8†	3	16. 13·4	+2·4	5. 18. 44·7	−2·4	
3	10·3	3	16. 26·0		6. 6. 9·3		
4	9·7	3	16. 33·2		4. 34. 54·4		
5	10·3	3	17. 22·6		6. 3. 39·4		
6	9·7	3	17. 35·1		8. 21. 43·0		
7	10·3	3	17. 36·5		5. 26. 50·6		
8	9·7	3	17. 47·6		7. 3. 39·2		
9	10·3	3	19. 9·8		8. 2. 29·7		
3430	10·3	3	22. 20. 4·5		7. 42. 17·9		
3431	9·7	3	22. 20. 7·6		5. 58. 5·0		
2	10·3	5	20. 16·4		2. 17. 13·0		
3	9·7	3	21. 48·3		7. 59. 50·3		
4	10·3	3	22. 2·4		8. 33. 48·3		
5	9·7	3	22. 20·8		8. 34. 37·6		
6	7·6†	3	22. 30·4	0·0	6. 13. 33·8	−0·5	
7	9·7	3	23. 3·7		7. 45. 53·9		
8	8·3†	3	23. 8·8		7. 12. 4·5		
9	10·3	3	23. 46·4		8. 26. 44·6		
3440	7·3†	3	22. 24. 3·6	+1·6	8. 48. 1·1	−0·6	
3441	5·2*	3	22. 24. 12·4	+2·1	4. 37. 25·9	−2·3	
2	10·3	3	24. 20·9		8. 18. 57·2		
3	9·7	3	24. 38·0		8. 15. 0·4		
4	7·3†	3	24. 42·3	+0·6	4. 30. 34·0	−0·3	
5	10·5	3	25. 17·9		8. 15. 25·8		
6	10·3	3	26. 16·9		6. 20. 23·1		
7	10·6	3	26. 39·7		4. 16. 8·9		
8	10·0	3	26. 43·5		8. 21. 42·1		
9	10·1	4	26. 56·2		3. 31. 40·8		
3450	9·7	5	22. 27. 23·5		3. 8. 54·9		
3451	10·3	3	22. 27. 38·8		5. 43. 53·6		
2	9·5	3	27. 41·4		4. 9. 57·0		
3	10·0	3	27. 48·4		7. 0. 45·1		
4	10·3	4	28. 32·1		4. 5. 6·7		
5	10·3	3	28. 44·8		8. 19. 47·5		
6	10·3	3	28. 54·7		7. 49. 16·4		
7	10·3	4	29. 4·8		2. 47. 37·9		
8	7·6†	3	29. 10·9	+1·1	5. 40. 45·0	−2·1	
9	9·1†	3	29. 24·8	+1·1	8. 35. 20·1	−0·8	
3460	10·2	4	22. 29. 52·1		2. 2. 17·3		
3461	10·3	3	22. 30. 10·1		6. 9. 50·4		
2	9·7	3	30. 19·8		8. 52. 11·4		
3	10·3	3	30. 21·9		7. 58. 53·7		
4	10·3	3	30. 32·8		7. 34. 8·1		
5	9·5	4	30. 37·9		1. 15. 58·4		
6	7·3†	22	30. 46·2	−0·2	2. 29. 23·7	−0·7	
7	9·7	3	31. 15·4		5. 0. 14·4		
8	9·7	3	31. 35·3		8. 40. 26·8		
9	10·1	3	36. 22·8		6. 44. 5·9		
3470	9·7	3	22. 36. 47·7		8. 28. 23·9		
3471	10·3	3	22. 37. 3·8		7. 5. 18·5		
2	8·9	3	37. 15·3	+0·5	8. 41. 40·0	−0·5	
3	10·3	5	37. 59·0		1. 44. 21·5		
4	10·5	3	39. 26·0		5. 32. 19·1		
5	10·3	3	39. 31·5		7. 44. 34·8		
6	10·5	3	40. 2·8		6. 23. 45·6		
7	10·6	3	40. 14·0		4. 29. 19·8		
8	9·7	3	40. 20·9		4. 13. 30·6		
9	9·7	4	40. 41·7		2. 57. 8·3		
3480	9·7	3	22. 41. 13·0		6. 26 40·8		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
3481	10·0	3	22. 41. 51·4		7. 58. 47·5		
2	10·3	3	42. 22·0		8. 27. 25·9		
3	7·7†	3	42. 46·5	−0·4	8. 51. 55·3	+2·2	
4	10·3	3	42. 53·4		5. 9. 30·8		
5	9·7	3	43. 9·9		7. 35. 30·1		
6	8·3†	3	43. 10·5	+0·8	8. 16. 7·4	+1·8	
7	9·7	6	43. 14·4		1. 30. 7·0		
8	10·3	4	43. 26·5		3. 7. 39·9		
9	9·5	3	44. 0·4		8. 49. 57·7		
3490	7·7†	3	22. 44. 6·9	0·0	7. 29. 32·4	−0·8	
3491	10·3	3	22. 44. 23·6		6. 57. 26·0		
2	10·0	3	45. 12·1		8. 15. 38·1		
3	7·7†	4	45. 35·7	−2·7	3. 28. 23·7	+1·7	
4	9·1	3	45. 38·8		4. 6. 0·8		
5	10·0	3	45. 41·0		8. 30. 33·3		
6	10·3	3	46. 9·6		4. 57. 45·3		
7	10·3	3	46. 11·8		8. 4. 10·8		
8	10·3	4	46. 27·9		3. 41. 11·9		
9	10·3	3	46. 59·7		7. 58. 41·4		
3500	10·3	3	22. 47. 46·5		7. 31. 9·8		
3501	10·0	3	22. 47. 54·1		6. 10. 52·4		
2	5·2*	3	47. 55·4	+0·8	7. 36. 55·3	−2·7	
3	10·3	3	48. 4·0		8. 29. 31·5		
4	8·5†	3	48. 15·0	+1·0	8. 49. 47·3	+1·2	
5	7·7†	3	48. 48·6	−1·8	7. 4. 32·6	−3·8	
6	10·3	3	49. 32·5		8. 54. 1·7		
7	9·4	3	50. 5·4		8. 47. 2·6		
8	10·3	3	50. 30·3		8. 21. 29·5		
9	7·4†	3	50. 39·7	+1·0	5. 59. 34·1	+5·2	
3510	10·0	3	22. 50. 52·3		4. 9. 33·2		
3511	10·0	3	22. 51. 6·7		8. 43. 2·7		
2	10·3	2	51. 24·9		3. 58. 37·9		
3	10·3	3	52. 7·0		4. 13. 24·8		
4	8·0†	3	53. 5·3	+0·6	8. 50. 17·9	+3·2	
5	10·3	4	53. 13·8		2. 38. 29·7		
6	10·3	3	53. 14·8		5. 17. 24·5		
7	10·3	3	53. 22·5		5. 13. 39·3		
8	10·3	3	53. 56·8		7. 50. 27·7		
9	7·8†	3	54. 4·1	+0·1	5. 43. 36·6	0·0	
3520	6·1*	3	22. 54. 15·3	+0·6	5. 24. 11·9	−4·0	
3521	10·3	3	22. 54. 39·7		5. 21. 6·4		
2	10·3	3	54. 54·9		2. 12. 35·9		N. p. of two.
3	9·7	3	54. 58·5		8. 39. 29·8		
4	10·3	3	55. 12·3		6. 35. 19·0		
5	5·2*	3	55. 23·3	+1·3	6. 25. 46·8	−0·4	
6	9·7	3	55. 53·4		7. 29. 36·5		
7	8·8†	3	56. 27·5	+0·3	7. 43. 26·9	+0·5	
8	10·4	4	56. 32·3		2. 8. 33·2		
9	9·7	3	57. 6·6		5. 38. 50·2		
3530	10·3	3	22. 57. 9·4		5. 50. 21·3		
3531	9·4	3	22. 57. 36·8		9. 1. 3·3		
2	10·6	3	57. 50·5		5. 49. 55·3		
3	10·3	3	57. 56·5		6. 49. 4·7		
4	10·3	3	58. 33·2		9. 3. 16·7		
5	9·7	3	58. 54·1		8. 4. 47·8		
6	10·1	3	23. 0. 47·1		8. 15. 58·6		
7	10·1	3	0. 47·1		8. 31. 56·5		
8	8·8†	3	0. 56·6	−0·1	8. 55. 29·8	−2·0	
9	9·7	3	1. 31·8		8. 51. 13·3		
3540	9·7	3	23. 2. 32·1		8. 59. 29·9		

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
3541	10·2	4	23. 3. 34·8		2. 15. 3·3		
2	10·0	3	3. 38·3		7. 58. 28·8		
3	9·7	4	3. 45·3		1. 24. 57·5		
4	10·1	4	3. 49·4		2. 8. 8·9		
5	10·3	4	5. 16·9		3. 58. 35·4		
6	10·3	4	5. 19·1		1. 7. 57·1		
7	10·3	3	5. 30·1		6. 51. 21·1		
8	10·3	4	6. 11·9		2. 50. 2·9		
9	10·0	3	6. 24·1		7. 11. 49·8		
3550	10·1	3	23. 6. 34·9		5. 12. 26·3		
3551	9·7	3	23. 6. 43·5	s	7. 58. 34·2	″	
2	7·7†	3	6. 45·8	+0·7	8. 12. 13·4	−4·7	
3	9·1	3	7. 25·5	+1·0	8. 24. 50·5	−0·4	
4	9·4	3	7. 36·4	+0·3	5. 3. 19·6	+1·1	
5	8·7†	3	8. 9·2	+0·1	8. 58. 13·5	−0·1	N. p. of a double. ≤ 2996.
6	10·1	3	8. 22·7		8. 51. 46·4		
7	10·1	3	8. 23·4		5. 52. 54·8		
8	10·3	3	8. 38·8		4. 52. 34·0		
9	10·3	3	9. 4·2		5. 30. 7·6		
3560	10·3	3	23. 9. 7·0		3. 10. 51·4		
3561	7·6†	3	23. 9. 32·7	+0·9	8. 23. 51·1	−2·5	
2	8·7†	3	9. 35·9	+1·0	9. 0. 19·2	−1·8	
3	10·3	3	9. 41·5		6. 48. 13·9		
4	10·0	3	10. 12·6		7. 16. 56·7		
5	10·3	4	10. 35·6		2. 38. 35·7		
6	10·5	3	11. 0·8		5. 49. 30·7		
7	10·3	3	11. 4·5		4. 54. 1·2		
8	9·7	3	11. 5·7		5. 28. 54·4		
9	9·7	3	11. 6·0		5. 47. 53·2		
3570	10·3	3	23. 11. 16·9		9. 1. 48·0		
3571	10·3	3	23. 11. 43·5		6. 38. 58·5		
2	10·1	3	12. 28·0		6. 26. 13·8		
3	7·7†	3	12. 41·2	+0·2	6. 32. 54·3	−0·2	
4	9·7	3	12. 45·2		7. 20. 39·7		≤ 3003.
5	9·5	3	12. 57·7		7. 48. 42·3		
6	9·7	3	12. 57·8		7. 20. 39·6		≤ 3003.
7	10·3	4	13. 19·9		4. 0. 3·0		
8	9·7	3	14. 23·4		6. 15. 31·8		
9	9·1	3	14. 35·4	+0·6	8. 37. 9·2	+1·0	
3580	7·6†	3	23. 14. 36·2	+0·3	8. 28. 14·7	−0·9	
3581	9·7	3	23. 15. 23·0		7. 46. 55·0		
2	10·1	3	15. 31·3		8. 48. 2·0		
3	10·3	3	15. 35·8		5. 19. 36·8		
4	9·5	3	15. 37·3		7. 34. 39·2		
5	10·3	4	15. 45·8		3. 25. 31·3		
6	10·3	3	16. 10·4		4. 9. 8·7		
7	9·1†	3	16. 54·7	+0·8	8. 56. 43·5	+1·4	
8	10·3	3	16. 59·2		8. 59. 28·1		
9	10·3	3	17. 8·2		5. 30. 42·5		
3590	10·0	3	23. 17. 27·0		8. 49. 29·7		
3591	10·3	3	23. 17. 27·8		6. 6. 8·5		
2	10·0	3	18. 7·6		7. 4. 19·0		
3	10·3	4	18. 24·4		2. 12. 59·0		
4	9·2†	3	19. 3·2	+0·8	4. 44. 19·0	+0·7	
5	10·3	3	19. 47·3		6. 40. 49·3		
6	10·3	3	20. 23·7		5. 0. 25·0		
7	10·3	3	20. 38·1		6. 19. 20·0		
8	10·0	3	20. 51·2		8. 2. 4·9		
9	10·3	3	21. 0·9		6. 27. 6·6		
3600	10·3	4	23. 21. 3·7		2. 9. 6·5		

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No.	Mag.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
			h m s		° ′ ″		
3601	9·7	4	23. 21. 18·3		0. 59. 14·7		
2	10·3	3	22. 51·3		7. 55. 36·6		
3	10·3	3	22. 55·5		6. 40. 6·8		
4	9·5	3	23. 10·1		7. 2. 18·9		
5	10·3	3	23. 34·9		8. 39. 42·4		
6	10·3	3	23. 50·0		6. 42. 29·8		
7	10·3	4	23. 52·4	s	3. 46. 4·7	″	
8	6·9†	3	24. 10·7	+0·8	4. 22. 49·8	−0·7	
9	9·7	3	24. 52·6		8. 18. 45·4		
3610	9·4	3	23. 24. 54·1		6. 52. 15·6		
3611	10·3	4	23. 24. 59·6		3. 23. 44·2		
2	9·7	3	25. 13·7		6. 34. 21·3		
3	10·0	3	25. 43·6		8. 33. 10·3		
4	10·2	4	25. 45·3		3. 33. 17·4		
5	7·5†	3	25. 48·3	+1·6	4. 47. 24·4	−3·0	
6	10·3	3	25. 55·8		8. 32. 34·3		
7	9·7	3	25. 59·2	−0·3	6. 15. 3·9	−0·1	
8	10·3	3	26. 38·8		6. 45. 37·4		
9	7·5†	3	27. 12·6	+1·5	4. 14. 30·1	−1·9	
3620	10·3	3	23. 27. 47·0		4. 28. 36·6		
3621	5·7*	21	23. 27. 49·5	+2·3	3. 29. 32·4	−1·0	
2	10·0	3	27. 49·7		7. 42. 53·3		
3	9·7	3	29. 16·3		7. 21. 5·4		
4	9·7	3	29. 17·2		5. 26. 29·1		
5	9·1	3	29. 41·4		7. 44. 53·4		
6	7·3†	3	29. 44·5	+1·0	4. 37. 19·2	−0·8	
7	10·3	3	31. 27·8		7. 30. 15·5		
8	9·7	3	31. 39·8		7. 2. 49·6		
9	7·8†	3	31. 50·6	−1·0	7. 35. 52·8	−3·1	
3630	9·7	3	23. 31. 50·9		6. 39. 6·9		
3631	10·1	3	23. 32. 18·8		7. 55. 6·2		
2	10·4	4	32. 40·6		3. 9. 25·3		
3	10·3	3	32. 41·8		6. 18. 2·7		
4	9·1†	3	32. 50·5	+1·1	5. 38. 4·9	−1·1	
5	10·3	3	33. 49·4		7. 11. 26·0		
6	10·3	3	34. 53·0		7. 57. 24·1		
7	8·9	3	34. 58·4		8. 49. 9·9		
8	10·3	3	35. 2·9		4. 7. 39·5		
9	10·3	3	35. 17·7		8. 2. 46·0		
3640	10·1	3	23. 35. 20·7		7. 24. 59·5		
3641	8·9†	3	23. 35. 50·8	+1·0	7. 55. 49·5	+2·2	
2	10·3	4	35. 58·5		1. 33. 15·3		
3	10·3	3	36. 17·1		5. 59. 20·6		
4	10·3	3	36. 23·1		4. 53. 0·7		
5	10·1	4	36. 27·9		1. 36. 41·0		
6	9·5	3	37. 4·5		5. 43. 49·7		
7	8·2†	3	38. 9·0	−1·7	5. 20. 6·9	−1·8	
8	10·3	3	38. 9·6		5. 3. 10·3		
9	10·0	3	38. 20·1		8. 11. 12·4		
3650	10·3	3	23. 39. 7·3		6. 36. 53·9		
3651	10·3	3	23. 39. 36·7		7. 31. 42·3		
2	7·8†	3	39. 40·5	+0·9	7. 59. 54·2	+1·1	
3	9·7	3	39. 42·3		5. 28. 48·0		
4	10·1	4	40. 29·4		1. 36. 13·4		
5	10·3	3	40. 35·8		8. 9. 34·8		
6	9·7	3	40. 51·0		6. 45. 6·6		
7	9·4	3	40. 54·4		8. 15. 27·9		
8	9·7	4	40. 55·9		3. 26. 55·6		
9	8·9†	3	42. 12·0	+3·7	8. 1. 9·6	+2·1	
3660	9·3	4	23. 42. 23·9	+3·1	2. 27. 47·1	−2·9	

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No.	Mag.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
			h m s	s	° ′ ″	″	
3661	7·6†	3	23. 42. 29·0	−1·0	5. 43. 37·7	−1·0	
2	8·8	3	42. 51·5		7. 49. 23·2		
3	10·3	3	42. 51·5		8. 8. 47·3		
4	10·3	3	43. 16·2		5. 16. 9·1		
5	10·3	3	43. 21·7		7. 38. 46·7		
6	10·3	3	43. 44·4		8. 36. 29·8		
7	10·3	3	43. 45·4		8. 25. 52·9		
8	9·7	3	43. 47·6		8. 40. 52·3		
9	10·3	3	43. 50·5		6. 43. 28·5		
3670	9·7	4	23. 44. 5·8		1. 57. 35·7		
3671	10·3	3	23. 44. 25·0		7. 35. 3·4		
2	10·5	3	44. 43·1		6. 18. 52·5		
3	9·7	3	44. 44·2		7. 54. 5·6		
4	9·1	3	45. 27·5		8. 58. 9·5		
5	10·0	3	45. 50·8		7. 26. 18·8		
6	9·7	3	46. 51·6		6. 38. 40·9		
7	10·3	3	48. 15·0		5. 50. 7·6		
8	10·1	4	48. 53·0		1. 15. 50·6		
9	9·7	3	49. 4·7		4. 54. 3·5		
3680	10·3	4	23. 49. 13·4		4. 1. 42·6		
3681	6·2*	3	23. 49. 44·5	+1·2	7. 36. 57·9	−2·2	
2	9·7	4	50. 7·0		6. 59. 51·0		
3	10·1	3	50. 16·8		8. 38. 50·3		
4	10·1	3	50. 40·1		6. 14. 21·5		
5	10·3	3	51. 5·7		9. 1. 17·1		
6	10·0	3	51. 10·5		8. 23. 31·9		
7	10·3	3	51. 18·8		6. 38. 20·3		
8	10·3	3	51. 27·2		4. 52. 38·7		
9	9·6	4	51. 57·6		1. 21. 40·8		
3690	10·1	3	23. 52. 2·5		7. 44. 57·7		
3691	10·3	3	23. 52. 11·0		6. 47. 47·3		
2	10·3	3	52. 41·4		7. 59. 34·3		
3	7·1†	4	52. 49·9	+2·2	4. 6. 1·4	−2·2	
4	9·7	3	53. 1·6		7. 42. 5·0		
5	9·7	4	54. 2·5		4. 8. 18·0		
6	10·3	3	54. 21·8		5. 28. 17·3		
7	9·7	3	54. 29·0		7. 34. 48·8		
8	10·3	3	54. 33·8		6. 55. 34·6		
9	8·7†	4	55. 15·8	+0·4	3. 46. 29·5	−0·3	
3700	7·5†	3	23. 55. 23·5	+0·3	7. 50. 1·9	−1·5	
3701	9·7	4	23. 55. 54·3		8. 9. 0·2		
2	10·3	3	56. 20·2		4. 26. 3·2		
3	9·7	3	56. 36·6		5. 33. 28·2		
4	9·7	3	56. 51·3		6. 20. 0·6		
5	10·0	3	57. 10·6		7. 55. 34·2		
6	10·1	3	57. 12·4		7. 8. 59·5		
7	10·3	3	57. 41·7		8. 6. 35·6		≤ 3059. (2″·4). Not seen double.
8	10·3	3	58. 0·9		8. 27. 15·1		
9	9·1	4	58. 6·7		2. 55. 6·8		
3710	10·3	3	23. 58. 31·7		5. 9. 33·2		
3711	9·2†	3	23. 59. 8·3	+1·8	5. 24. 9·2	−0·3	
2	10·3	3	59. 9·9		8. 6. 31·9		
3	10·1	3	59. 28·1		6. 23. 12·3		
4	8·9	4	59. 37·6	+9·3	4. 1. 7·6	−1·0	Proper motion.
5	10·3	3	59. 48·4		6. 12. 10·9		
6	10·1	3	59. 51·7		5. 2. 41·3		

REDHILL CATALOGUE OF CIRCUMPOLAR STARS.

The Positions of 19 Stars very near to the Pole, (specially treated.)

Star.	Mag.	Obs.	Mean Long.	Mean Lat.	R.A. 1855·0	C−S.	N.P.D. 1855·0	C−S.	
			° ′ ″	° ′ ″	h m s		° ′ ″		
a	10·1	6	89. 0. 18·4	66. 31. 11·1	0. 11. 5·5		0. 23. 48·6		
b	9·3	5	88. 51. 57·7	66. 18. 6·2	1. 49. 36·5		30. 48·0		
c	10·4	4	88. 39. 55·2	66. 15. 13·5	1. 50. 57·5		36. 25·9		
d	9·3	6	89. 35. 31·6	66. 1. 6·5	4. 49. 39·5		32. 55·4		
e	10·0	7	90. 4. 12·8	66. 10. 26·8	6. 17. 37·9		22. 8·7		
f	10·3	5	90. 36. 2·9	66. 17. 48·6	8. 58. 46·7	s	20. 36·2	″	
g	9·7	6	91. 4. 1·4	66. 21. 11·3	10. 26. 21·0	− 2·2	0. 27. 58·9	−0·9	
h	9·9	5	90. 39. 18·8	66. 28. 51·3	11. 8. 27·3	+24·2	16. 5·6	+0·5	
i	9·7	6	91. 17. 25·0	66. 40. 19·7	12. 59. 20·2	+ 2·2	31. 42·7	+5·2	Σ 1717.
k	10·3	5	91. 4. 34·7	66. 42. 15·0	13. 25. 6·0		27. 24·3		
l	10·1	5	90. 31. 57·3	66. 46. 48·4	15. 14. 44·9	+30·6	19. 5·0	0·0	
m	10·3	4	90. 6. 55·3	66. 36. 36·0	15. 44. 2·7		4. 54·9		
n	9·0†	5	90. 17. 54·9	67. 13. 33·0	17. 21. 38·1		0. 41. 37·4		
o	10·3	5	89. 58. 39·9	66. 48. 41·7	18. 7. 26·9		16. 10·6		
p	10·3	5	89. 38. 43·2	66. 52. 51·2	19. 29. 17·3		21. 59·9		
q	10·3	5	89. 23. 8·0	67. 1. 38·0	19. 45. 0·1		32. 32·0		
r	10·0	5	89. 40. 20·0	66. 44. 17·9	20. 13. 29·3		14. 7·2		
s	10·3	5	89. 7. 14·8	66. 51. 39·1	21. 8. 21·0		28. 18·2		
t	10·1	5	89. 33. 16·0	66. 38. 12·3	22. 6. 39·9		0. 12. 2·6		

Individual Observations.

	Day.	Mag.	App. R.A.	App. N.P.D.	App. Long.	App. Lat.	Mean Long.	Exc.	Mean Lat.	Exc.
			h m s	° ′ ″	° ′ ″	° ′ ″	° ′ ″	″	° ′ ″	″
a	135·36*	10·0	0. 8. 24	0. 24. 24·6	88. 58. 46·0	66. 31. 21·3	89. 0. 16·4	−0·8	66. 31. 11·3	+0·2
	236·58	10·0	12. 23	24. 10·2	59. 26·0	30. 55·8	19·6	+0·5	12·7	+1·6
	246·56	10·5	12. 48	24. 8·6	59. 30·5	30. 53·1	14·7	−1·5	11·2	+0·1
	248·55	10·5	12. 46	24. 5·6	59. 38·0	30. 53·4	20·4	+0·8	11·7	+0·6
	655·44	10·5	12. 52	23. 29·7	61. 8·0	30. 54·0	15·7	−1·1	10·5	−0·6
	669·40	10·5	12. 49	23. 21·7	61. 28·0	30. 55·0	23·4	+2·0	9·0	−2·1
b	134·43*	10·0	1. 45. 57	0. 31. 13·6	88. 50. 27·0	66. 18. 16·0	88. 51. 56·9	−0·3	66. 18. 5·8	−0·4
	136·42*	9·5	45. 58	31. 15·0	50. 24·1	18. 15·2	54·5	−1·3	5·5	−0·7
	144·40*	9·5	46. 8	31. 15·4	50. 24·8	18. 14·0	57·5	−0·1	6·5	+0·3
	349·34	9·0	49. 57	30. 32·1	52. 36·0	18. 6·1	60·8	+1·2	7·5	+1·3
	379·26	10·0	48. 59	30. 28·6	52. 34·6	18. 14·2	58·8	+0·4	5·9	−0·3
c	134·43*	10·5	1. 47. 34	0. 36. 51·5	88. 38. 21·0	66. 15. 25·2	88. 39. 50·9	−1·7	66. 15. 15·0	+1·5
	137·42*	10·5	47. 46	36. 51·9	38. 22·4	15. 23·3	53·1	−0·8	13·9	+0·4
	383·25	11·0	50. 8	36. 12·9	40. 14·4	15. 20·7	(39·5)	—	(11·2)	—
	656·50	10·5	53. 3	36. 11·4	40. 51·2	14. 55·6	57·9	+1·1	11·8	−1·7
	669·47	10·5	53. 0	36. 5·3	41. 3·7	14. 59·3	59·1	+1·6	13·2	−0·3
d	20·37	10·0	4. 48. 12	0. 32. 45·2	89. 35. 9·7	66. 1. 16·2	89. 35. 29·2	−1·0	66. 1. 6·7	+0·2
	22·36	9·0	48. 7	32. 45·0	35. 8·2	1. 16·8	28·5	−1·2	6·7	+0·2
	27·35	10·0	48. 12	32. 42·5	35. 11·7	1. 18·6	33·4	+0·7	7·3	+0·8
	135·55*	10·0	45. 10	32. 54·1	34. 2·0	1. 15·1	31·3	−0·1	5·0	−1·5
	138·54*	9·5	45. 16	32. 52·9	34. 8·5	1. 16·0	38·7	+2·8	6·7	+0·2
	201·37*	9·0	46. 6	33. 10·3	34. 8·4	0. 57·0	28·3	−1·3	6·3	−0·2
e	20·43	11·0	6. 16. 24	0. 21. 55·1	90. 3. 52·8	66. 10. 36·0	90. 4. 11·9	−0·4	66. 10. 26·6	−0·2
	25·41	10·0	16. 23	21. 53·5	3. 52·3	10. 37·5	12·9	0·0	26·8	0·0
	27·41	10·0	16. 17	21. 52·6	3. 50·7	10. 38·2	11·9	−0·4	26·9	+0·1
	53·34	10·0	15. 21	21. 46·1	3. 36·4	10. 43·9	12·2	−0·3	27·4	+0·6
	202·43*	10·5	12. 8	22. 11·4	2. 54·4	10. 17·3	14·0	+0·5	26·8	0·0
	203·42*	10·0	12. 8	22. 11·2	2. 54·4	10. 17·4	13·3	+0·2	27·1	+0·3
	225·36*	10·0	13. 7	22. 17·1	3. 9·3	10. 11·2	13·1	+0·1	26·0	−0·8
f	233·45*	10·5	8. 54. 35	0. 20. 27·5	90. 35. 7·1	66. 17. 33·8	90. 35. 64·3	+0·6	66. 17. 50·0	+1·4
	246·42*	10·5	54. 29	20. 32·2	35. 14·3	17. 29·8	59·8	−1·2	47·7	−0·9
	247·42*	10·5	54. 48	20. 31·4	35. 15·9	17. 31·3	60·6	−1·0	49·3	+0·7
	589·48*	10·5	57. 20	20. 40·2	35. 55·6	17. 33·3	66·2	+1·3	47·4	−1·2
	591·48*	10·5	57. 20	20. 39·5	35. 54·4	17. 33·8	63·6	+0·3	48·4	−0·2
g	53·51	10·0	10. 28. 7	0. 27. 36·9	91. 3. 24·2	66. 21. 27·5	91. 3. 59·3	−0·8	66. 21. 11·1	−0·2
	89·41	10·0	27. 51	27. 27·6	3. 1·1	21. 29·2	63·7	+0·9	11·1	−0·2
	95·40	10·0	27. 33	27. 24·1	2. 50·9	21. 28·6	57·6	−1·5	10·9	−0·4
	223·54*	10·0	23. 42	27. 38·3	2. 54·3	20. 57·1	60·4	−0·4	11·4	+0·1
	233·52*	10·0	23. 50	27. 42·8	3. 5·5	20. 55·9	63·1	+0·7	12·0	+0·7
	236·51*	10·0	23. 47	27. 44·5	3. 9·0	20. 54·8	64·2	+1·1	11·4	+0·1

Individual Observations of Stars very near to the Pole.

	Day.	Mag.	App. R.A.	App. N.P.D.	App. Long.	App. Lat.	Mean Long.	Exc.	Mean Lat.	Exc.
			h m s	° ′ ″	° ′ ″	° ′ ″	° ′ ″	″	° ′ ″	″
h	53·54	10·0	11. 12. 32	0. 15. 46·6	90. 38. 41·9	66. 29. 7·7	90. 39. 17·2	−0·6	66. 28. 51·2	−0·1
	124·35	—	10. 46	15. 28·8	37. 54·4	29. 4·4	19·4	+0·2	51·3	0·0
	240·52*	10·5	4. 54	15. 48·0	38. 26·9	28. 35·3	18·5	−0·1	52·5	+1·2
	241·52*	10·0	4. 21	15. 48·5	38. 26·7	28. 33·0	17·3	−0·6	50·4	−0·9
	246·51*	10·0	4. 39	15. 51·9	38. 35·8	28. 33·3	21·5	+1·1	51·2	−0·1
i	134·40	10·0	12. 62. 4	0. 31. 12·7	91. 15. 57·6	66. 40. 30·0	91. 17. 26·9	+0·8	66. 40. 19·1	−0·6
	135·39	10·0	62. 7	31. 10·2	15. 51·2	40. 29·8	20·7	−1·7	19·1	−0·6
	339·33*	10·0	58. 53	31. 55·0	17. 57·2	40. 13·7	25·0	0·0	19·2	−0·5
	350·30*	10·0	59. 26	31. 58·0	18. 1·9	40. 18·7	25·9	+0·4	20·6	+0·9
	655·47*	10·0	57. 48	31. 59·7	18. 14·0	40. 3·7	23·4	−0·6	20·5	+0·8
	669·43*	10·0	57. 47	32. 6·7	18. 31·2	40. 5·1	28·0	+1·2	19·6	−0·1
k	136·41	10·5	13. 28. 47	0. 26. 56·2	91. 3. 4·5	66. 42. 25·1	91. 4. 34·5	−0·1	66. 42. 14·8	−0·2
	137·41	10·5	28. 49	26. 55·9	3. 3·5	42. 25·2	34·0	−0·3	15·1	+0·1
	144·39	10·5	28. 41	26. 54·4	3. 0·9	42. 23·8	33·5	−0·5	15·6	+0·6
	263·56*	10·5	23. 51	27. 8·2	4. 3·9	41. 55·1	33·7	−0·4	14·0	−1·0
	379·24*	10·5	26. 6	27. 44·4	5. 15·5	42. 23·2	38·1	+1·4	15·5	+0·5
l	32·27*	10·0	15. 18. 16	0. 19. 12·4	90. 31. 36·0	66. 47. 1·4	90. 31. 58·5	+0·5	66. 46. 49·0	+0·6
	135·49	10·0	21. 55	18. 52·8	30. 28·6	46. 57·8	58·7	+0·6	47·4	−1·0
	138·48	10·5	22. 5	18. 52·8	30. 27·0	46. 58·2	58·1	+0·3	48·5	+0·1
	361·37*	10·5	13. 30	19. 21·0	32. 36·1	46. 50·4	57·3	0·0	48·3	−0·1
	374·33*	10·5	14. 21	19. 23·5	32. 32·2	46. 55·0	54·0	−1·3	48·7	+0·3
m	32·30*	10·5	15. 56. 10	0. 5. 4·2	90. 6. 34·2	66. 36. 48·1	90. 6. 57·2	+0·8	66. 36. 35·6	−0·4
	135·53	10·5	71. 48	4. 40·0	5. 20·8	36. 36·2	(50·9)	—	(25·9)	—
	137·52	10·5	74. 10	4. 49·5	5. 25·5	36. 46·0	56·2	+0·4	36·2	+0·2
	383·33*	10·5	42. 47	5. 14·3	7. 26·2	36. 45·2	50·0	−2·1	36·0	0·0
	391·30*	10·5	42. 46	5. 17·6	7. 31·0	36. 47·8	57·9	+1·0	36·4	+0·4
n	25·38*	8·5	17. 22. 35	0. 41. 50·4	90. 17. 34·2	67. 13. 43·8	90. 17. 52·9	−0·8	67. 13. 33·1	+0·1
	32·36*	9·0	22. 39	41. 52·1	17. 33·0	13. 45·3	55·0	0·0	32·7	−0·3
	137·57	9·5	25. 0	41. 46·8	16. 25·2	13. 44·0	56·9	+0·8	34·1	+1·1
	168·49	9·0	25. 2	41. 35·4	16. 19·7	13. 32·8	54·4	−0·2	32·1	−0·9
	391·37*	9·0	20. 42	41. 56·8	18. 29·5	13. 44·6	55·2	+0·1	33·2	+0·2
o	43·36*	10·5	18. 9. 34	0. 16. 31·0	89. 58. 15·0	66. 48. 57·3	89. 58. 43·7	+1·5	66. 48. 42·3	+0·6
	64·30*	10·5	11. 22	16. 32·9	57. 55·0	48. 58·6	38·8	−0·4	40·8	−0·9
	202·43	10·5	14. 56	16. 8·0	57. 19·9	48. 32·8	40·6	+0·3	42·3	+0·6
	203·42	10·5	15. 4	16. 7·4	57. 18·6	48. 32·0	38·6	−0·5	41·8	+0·1
	228·36	10·5	13. 33	16. 1·1	57. 35·8	48. 25·7	37·7	−0·9	41·2	−0·5
p	23·47*	10·5	19. 29. 31	0. 22. 14·0	89. 38. 26·4	66. 53. 0·0	89. 38. 45·4	+0·9	66. 52. 49·6	−1·6
	48·40*	10·5	29. 54	22. 23·4	38. 11·8	53. 6·9	44·3	+0·4	51·0	−0·2
	202·48	10·5	34. 33	22. 9·6	37. 22·4	52. 43·2	43·1	0·0	52·9	+1·7
	223·42	10·5	34. 10	22. 2·5	37. 34·9	52. 37·0	40·8	−1·0	51·6	+0·4
	229·41	10·5	33. 53	21. 59·9	37. 41·4	52. 35·2	42·2	−0·4	50·9	−0·3
q	39·44*	10·5	19. 45. 6	0. 32. 53·9	89. 22. 40·8	67. 1. 53·1	89. 23. 7·3	−0·3	67. 1. 38·8	+0·8
	48·41*	10·5	45. 14	32. 53·4	22. 38·7	1. 51·8	11·2	+1·3	35·8	−2·2
	201·50	10·5	48. 40	32. 41·0	21. 46·2	1. 27·0	7·7	−0·1	36·5	−1·5
	203·49	10·5	48. 33	32. 41·4	21. 48·0	1. 27·8	8·1	0·0	37·8	−0·2
	228·42	10·5	48. 12	32. 33·5	22. 4·1	1. 25·7	5·8	−0·9	41·3	+3·3
r	32·47*	10·0	20. 13. 3	0. 14. 27·2	89. 39. 55·4	66. 44. 31·2	89. 40. 18·6	−0·6	66. 44. 18·5	+0·6
	43·44*	10·0	13. 17	14. 30·0	39. 49·7	44. 32·9	18·8	−0·5	17·9	0·0
	202·52	10·0	20. 59	14. 21·6	39. 1·1	44. 9·0	21·5	+0·6	18·6	+0·7
	223·46	10·5	20. 57	14. 13·3	39. 13·6	44. 1·9	19·3	−0·3	16·5	−1·4
	228·44	10·5	20. 18	14. 12·3	39. 20·1	44. 2·4	21·6	+0·6	18·0	+0·1
s	32·51*	10·5	21. 7. 23	0. 28. 36·4	89. 6. 53·0	66. 51. 52·5	89. 7. 16·4	+0·6	66. 51. 39·7	+0·6
	43·48*	10·5	7. 37	28. 40·5	6. 42·3	51. 53·8	11·6	−1·3	38·6	−0·5
	201·55	10·5	11. 25	28. 38·1	5. 58·5	51. 30·7	19·5	+1·9	40·2	+1·1
	223·49	10·5	11. 39	28. 31·1	6. 9·0	51. 24·0	14·5	−0·1	38·7	−0·4
	241·44	10·5	11. 29	28. 25·2	6. 22·4	51. 20·8	12·1	−1·0	38·4	−0·7
t	55·49*	10·0	22. 2. 36	0. 12. 26·0	89. 32. 39·9	66. 38. 30·2	89. 33. 17·3	+0·5	66. 38. 13·2	+0·9
	89·40*	10·5	4. 3	12. 34·9	32. 14·5	38. 30·0	18·5	+1·0	12·0	−0·3
	223·54	10·0	13. 18	12. 22·4	32. 7·4	37. 57·1	12·9	−1·2	11·7	−0·6
	233·51	10·5	13. 4	12. 16·9	32. 20·7	37. 55·0	17·4	+0·6	11·4	−0·9
	240·49	10·5	12. 44	12. 16·4	32. 23·0	37. 55·7	13·8	−0·9	13·1	+0·8

INDIVIDUAL OBSERVATIONS

ARRANGED

IN THREE SUBZONES

IN THE ORDER IN WHICH THEY WERE TAKEN.

The	First	from	45′	to	4°	of N. P. D.
...	Second	...	4°	...	7°	...
...	Third	...	7°	...	9°	..

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0009	87*	10·5	0. 4. 19·5	−1·0	1. 8. 18·4	−1·1
	95*	10·5	24·1	+0·3	20·1	+0·6
	253	10·5	21·4	−0·5	20·1	+0·6
	263	10·5	26·9	+1·2	19·5	0·0
0011	95*	9·5	0. 4. 30·9	+0·1	2. 24. 19·7	+1·2
	134*	10·0	32·1	+0·9	18·7	+0·2
	263	9·5	31·6	+0·6	18·3	−0·2
	267	10·0	28·2	−1·6	17·4	−1·1
0013	74*	9·5	0. 5. 52·5	+0·4	4. 4. 48·4	−0·4
	86*	9·0	51·6	−0·5	49·5	+0·7
	312	10·0	51·3	−0·9	48·3	−0·5
	339	9·5	53·1	+1·1	49·1	+0·3
0014	75*	10·5	0. 6. 8·7	−1·7	3. 18. 56·0	−0·5
	85*	10·0	11·2	+0·5	57·9	+1·4
	312	10·5	10·4	−0·2	54·9	−1·6
	326	10·0	12·2	+1·4	57·1	+0·6
0015	74*	9·5	0. 6. 34·2	−0·3	4. 8. 3·9	+0·7
	86*	9·0	34·6	+0·1	2·8	−0·4
	312	9·0	33·9	−0·7	3·5	+0·3
	339	9·0	35·4	+1·0	2·4	−0·8
0018	75*	9·5	0. 7. 28·9	−1·7	3. 26. 57·9	−1·8
	85*	9·5	31·2	+0·4	62·3	+2·6
	326	9·5	30·6	−0·2	59·6	−0·1
	339	9·5	32·4	+1·5	59·1	−0·6
0023	87*	9·0	0. 11. 1·9	−0·1	1. 21. 34·1	+1·2
	135*	9·0	1·1	−0·4	32·7	−0·2
	253	9·0	1·4	−0·3	32·6	−0·3
	267	10·0	4·2	+0·7	32·3	−0·6
0027	74*	10·0	0. 12. 9·8	−0·5	2. 45. 54·4	−0·8
	75*	10·5	8·8	−1·2	57·1	+1·9
	312	10·5	11·6	+0·8	53·7	−1·5
	326	10·0	11·9	+1·0	55·4	+0·2
0035	74*	10·5	0. 16. 4·1	−0·3	3. 25. 44·4	+0·5
	85*	10·5	5·2	+0·7	43·8	−0·1
	236	10·5	3·3	−1·0	42·1	−1·8
	326	10·5	4·8	+0·4	45·3	+1·4
0037	86*	10·0	0. 16. 13·5	−1·0	3. 54. 55·9	+0·2
	87*	10·5	14·1	−0·4	53·2	−2·5
	312	10·5	14·6	+0·1	57·5	+1·8
	339	10·5	15·8	+1·3	56·1	+0·4
0041	86*	10·5	0. 17. 24·7	−1·1	3. 49. 22·1	+1·7
	87*	10·5	26·7	+0·9	21·1	+0·7
	339	10·5	26·3	+0·5	19·4	−1·0
	361	11·0	25·4	−0·4	18·9	−1·5
0053	75*	10·5	0. 22. 31·9	+2·6	3. 5. 42·3	+0·1
	86*	10·0	27·8	−0·7	42·2	0·0
	236	10·5	26·1	−2·1	42·2	0·0
	312	10·0	28·8	+0·1	42·0	−0·2
0054	74*	9·5	0. 22. 36·1	−0·2	3. 0. 12·5	−0·3
	75*	10·0	37·2	+0·7	14·4	+1·6
	236	10·0	35·2	−0·9	13·8	+1·0
	312	9·5	36·7	+0·3	10·5	−2·3
0056	74*	9·0	0. 22. 47·3	−0·8	4. 5. 30·2	+0·1
	85*	9·0	48·7	+0·8	31·9	+1·8
	236	9·5	48·4	+0·4	29·9	−0·2
	262	9·0	47·6	−0·4	28·3	−1·8
0070	86*	10·5	0. 27. 47·1	−1·0	2. 38. 18·3	+0·4
	87*	10·5	50·4	+1·2	16·3	−1·6
	236	10·5	45·9	−1·9	19·5	+1·6
	339	10·5	51·1	+1·7	17·5	−0·4
0071	86*	10·5	0. 27. 59·4	−0·1	3. 55. 30·7	−0·9
	87*	10·5	59·6	+0·1	33·0	+1·4
	236	10·5	58·3	−1·2	31·8	+0·2
	248	10·5	60·7	+1·2	30·9	−0·7
0073	95*	10·5	0. 28. 17·7	+0·2	1. 28. 46·8	+0·9
	135*	10·0	15·6	−0·7	45·3	−0·6
	253	10·5	17·3	0·0	46·5	+0·6
	262	10·0	18·5	+0·5	44·9	−1·0
0081	74*	10·5	0. 31. 4·6	−0·7	2. 49. 51·1	−0·9
	75*	10·5	4·4	−0·9	53·5	+1·5
	248	10·5	6·3	+0·5	52·2	+0·2
	326	10·5	6·9	+1·0	51·1	−0·9
0085	85*	9·5	0. 32. 32·3	+0·4	3. 51. 19·5	+1·7
	86*	9·5	31·1	−0·4	19·0	+1·2
	137*	9·0	31·2	−0·4	16·6	−1·2
	236	9·5	30·9	−0·6	16·5	−1·3
	327	9·5	32·9	+0·9	17·6	−0·2
0088	74*	10·0	0. 33. 23·6	−0·9	2. 58. 12·6	+0·9
	75*	10·0	25·1	+0·3	7·8	−3·9
	248	10·0	23·3	−1·1	11·4	−0·3
	326	10·0	26·9	+1·7	12·9	+1·2

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0091	74*	10·5	0. 36. 24·8	+0·4	2. 54. 35·0	+2·1
	75*	10·5	22·6	−1·3	31·7	−1·2
	248	10·5	22·7	−1·2	32·0	−0·9
	339	10·5	27·0	+2·0	33·0	+0·1
0094	74*	10·0	0. 36. 53·1	−0·8	2. 53. 58·8	0·0
	75*	10·0	53·4	−0·5	58·3	−0·5
	248	10·5	53·9	−0·2	57·9	−0·9
	339	10·5	56·0	+1·4	60·1	+1·3
0096	86*	10·5	0. 37. 31·2	−0·2	3. 25. 40·3	−0·2
	87*	10·5	31·8	+0·4	39·4	−1·1
	326	10·5	32·7	+1·2	45·6	+5·1
	327	10·5	29·9	−1·3	39·1	−1·4
0099	87*	10·0	0. 38. 49·2	−0·8	3. 52. 22·4	+1·0
	95*	10·0	51·2	+1·2	19·8	−1·6
	327	10·5	49·8	−0·2	21·0	−0·4
	339	10·0	49·6	−0·4	22·5	+1·1
0100	87*	10·5	0. 39. 27·0	+0·8	3. 56. 37·3	+0·6
	137*	10·5	25·8	−0·4	37·2	+0·5
	339	10·5	27·1	+0·9	37·1	+0·4
	361	10·5	24·7	−1·5	35·3	−1·4
0102	86*	10·5	0. 39. 48·5	−0·8	3. 18. 4·6	−2·2
	88*	10·5	48·3	−0·9	8·2	+1·4
	312	10·5	51·3	+1·7	4·5	−2·3
	361	11·0	49·0	−0·3	9·7	+2·9
0113	74*	9·0	0. 43. 11·9	0·0	3. 28. 11·1	+0·3
	85*	9·0	12·4	+0·5	11·1	+0·3
	248	9·5	10·6	−1·2	9·4	−1·4
	326	9·0	12·5	+0·5	11·5	+0·7
0127	95*	10·0	0. 49. 6·6	+0·7	1. 47. 10·0	−0·5
	134*	10·0	5·8	+0·3	10·0	−0·5
	136*	10·0	6·2	+0·5	11·4	+0·9
	248	10·0	2·3	−1·3	10·0	−0·5
	253	10·5	4·7	−0·2	10·9	+0·4
0135	74*	10·0	0. 50. 49·5	+0·3	3. 53. 44·0	+1·2
	86*	10·0	50·0	+0·8	42·8	0·0
	142*	10·0	49·9	+0·7	43·3	+0·5
	248	10·5	47·9	−1·3	43·0	+0·2
	312	10·5	48·8	−0·4	40·9	−1·9
0137	95*	9·5	0. 50. 59·5	−0·2	2. 6. 45·7	−0·3
	135*	9·5	59·8	0·0	46·6	+0·6
	253	9·5	59·1	−0·4	45·8	−0·2
	262	9·5	60·9	+0·6	46·0	0·0
0140	135*	9·5	0. 51. 30·9	−0·5	2. 30. 38·7	+1·3
	136*	9·5	32·1	+0·3	37·8	+0·4
	253	9·5	30·9	−0·5	37·0	−0·4
	262	10·0	32·9	+0·8	36·0	−1·4
0142	87*	10·5	0. 51. 39·7	+0·1	2. 40. 19·1	−4·6
	137*	10·5	36·4	−2·2	21·5	−2·2
	327	11·0	43·7	+2·9	26·8	+3·1
	332	10·5	38·1	−1·0	27·3	+3·6
0143	86*	10·5	0. 51. 42·2	−0·2	3. 42. 3·1	0·0
	87*	10·0	42·6	+0·2	4·6	+1·5
	312	10·5	41·4	−1·0	1·9	−1·2
	326	10·5	43·4	+1·0	2·6	−0·5
0145	74*	8·0	0. 52. 48·1	0·0	3. 37. 46·5	+0·1
	87*	7·0	48·3	+0·2	47·0	+0·6
	248	7·0	47·2	−0·9	45·7	−0·7
	326	8·0	48·6	+0·5	46·2	−0·2
0149	86*	10·5	0. 54. 13·4	−0·2	4. 0. 5·7	−0·4
	312	10·0	13·8	+0·2	4·9	−1·2
	335	10·5	13·7	+0·1	7·7	+1·6
0151	74*	10·0	0. 55. 46·1	0·0	3. 47. 32·3	−0·6
	86*	9·5	46·3	+0·2	34·6	+1·7
	248	10·0	45·4	−0·7	32·0	−0·9
	326	10·0	46·7	+0·6	32·5	−0·4
0156	87*	10·5	0. 58. 2·4	−0·6	3. 25. 20·7	+0·1
	142*	10·5	2·4	−0·6	20·5	−0·1
	337	10·5	4·1	+0·9	21·1	+0·5
	339	10·5	3·4	+0·3	20·1	−0·5
0160	139*	10·5	0. 59. 20.0	+0·2	2. 52. 49·0	0·0
	144*	10·0	19·3	−0·3	49·0	0·0
	337	10·5	18·5	−0·9	48·8	−0·2
	339	10·0	20·3	+0·5	49·5	+0·5
	361	10·5	20·2	+0·4	48·5	−0·5
0164	86*	10·5	1. 0. 31·8	−0·2	3. 49. 9·5	+0·4
	142*	10·5	32·3	+0·3	8·5	−0·6
	326	10·5	31·2	−0·8	8·4	−0·7
	335	10·5	32·7	+0·7	9·8	+0·7
0172	95*	10·0	1. 3. 50·8	+0·5	1. 40. 6·5	+0·4
	136*	10·0	45·7	−1·8	5·1	−1·0
	262	10·0	50·7	+0·4	5·3	−0·8
	267	10·0	51·7	+0·9	7·3	+1·2

The numbers in Column 'Day' are reckoned from 1854, Jan. 1. An asterisk following the Day-number indicates that the star was observed at its inferior transit.

The magnitudes here given are the uncorrected estimations made during the meridian observations.

0088 on 75*. Bad bisection. Half-weight.

0096 on 326. Bad bisection. Faint. Half-weight.

0102 and 0142. Too faint for satisfactory observation.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0173	86*	10·0	1. 4. 3·5	−0·6	3. 49. 49·7	0·0
	142*	10·0	5·2	+1·1	50·6	+0·9
	326	9·5	4·2	+0·1	49·6	−0·1
	332	9·0	3·7	−0·4	48·8	−0·9
0178	(a)	10·0	1. 6. 3·7	−0·7	1. 28. 3·8	−0·9
	(b)	10·0	5·0	−0·2	4·3	−0·4
	74*	10·0	6·6	+0·4	5·7	+1·0
	146*	10·0	6·5	+0·4	4·8	+0·1
0183	95*	9·0	1. 7. 5·8	−0·3	2. 11. 45·6	−0·2
	137*	8·5	5·2	−0·7	45·2	−0·6
	262	9·5	7·3	+0·5	46·2	+0·4
	267	9·0	7·1	+0·4	46·2	+0·4
0191	138*	10·0	1. 12. 9·4	−1·2	2. 51. 12·8	+1·1
	139*	10·5	11·1	+0·1	11·7	0·0
	312	10·5	11·2	+0·1	10·1	−1·6
	326	10·0	12·2	+0·8	12·0	+0·3
0195	138*	10·5	1. 15. 35·3	−1·1	3. 50. 32·6	−2·1
	142*	10·5	35·7	−0·7	35·2	+0·5
	312	10·5	37·4	+1·0	33·4	−1·3
	326	10·5	37·1	+0·7	37·4	+2·7
0197	262	10·5	1. 16. 11·3	+0·2	2. 2. 58·0	−0·9
	379	11·0	11·6	+0·4	59·3	+0·4
	656	10·5	9·1	−1·0	59·6	+0·7
	669	10·5	11·4	+0·3	58·7	−0·2
0199	139*	10·5	1. 17. 16·6	−0·2	4. 0. 24·5	+1·2
	142*	10·5	17·2	+0·4	23·1	−0·2
	326	10·0	16·7	−0·1	24·6	+1·3
	332	10·5	16·7	−0·1	21·1	−2·2
0201	134*	10·0	1. 17. 35·0	0·0	0. 59. 52·1	+0·6
	135*	10·0	36·1	+0·3	51·1	−0·4
	136*	10·0	33·9	−0·3	51·1	−0·4
	262	10·0	36·0	+0·3	50·6	−0·9
	263	10·0	34·0	−0·3	52·6	+1·1
0211	138*	10·5	1. 22. 49·9	−2·2	4. 2. 14·9	+0·8
	139*	10·5	51·6	−0·4	15·2	+1·1
	312	10·0	53·2	+1·3	11·6	−2·5
	326	10·5	53·1	+1·2	14·8	+0·7
0231	86*	10·5	1. 30. 15·9	−0·9	3. 2. 11·3	+0·3
	138*	10·5	17·1	+0·1	10·9	−0·1
	312	10·5	17·7	+0·6	10·6	−0·4
	332	10·5	17·4	+0·3	11·2	+0·2
0236	138*	9·0	1. 31. 37·4	−0·5	3. 47. 20·3	+0·3
	139*	9·5	37·8	−0·1	22·0	+2·0
	142*	9·0	39·0	+1·1	21·0	+1·0
	312	9·5	37·0	−0·9	16·7	−3·3
	335	9·0	38·5	+0·6	19·8	−0·2
0241	139*	10·5	1. 32. 51·1	−0·3	3. 58. 53·7	+1·7
	142*	10·5	51·4	0·0	52·0	0·0
	332	10·5	51·1	−0·3	51·2	−0·8
	335	10·5	52·0	+0·6	51·1	−0·9
0242	138*	10·0	1. 32. 56·8	−0·6	3. 45. 8·8	+0·6
	139*	10·0	58·3	+0·9	10·3	+2·1
	142*	10·0	56·9	−0·5	8·2	0·0
	312	10·0	57·0	−0·4	5·2	−3·0
	335	10·0	58·1	+0·7	8·6	+0·4
0251	134*	9·0	1. 35. 33·7	0·0	2. 13. 19·4	+0·6
	136*	9·0	34·4	+0·4	18·6	−0·2
	340	9·0	33·9	+0·1	18·5	−0·3
	349	9·5	32·4	−0·8	18·2	−0·6
	379	9·5	33·9	+0·1	19·2	+0·4
0263	135*	9·5	1. 40. 2·6	+0·3	2. 0. 57·7	+0·3
	137*	9·5	2·2	+0·1	57·5	+0·1
	349	9·5	2·5	+0·2	57·0	−0·4
	359	10·0	1·1	−0·5	57·3	−0·1
0267	135*	10·5	1. 40. 53·9	+0·5	2. 30. 56·4	+0·5
	137*	10·5	50·7	−1·7	55·1	−0·8
	349	10·5	54·3	+0·7	56·9	+1·0
	656	10·5	53·7	+0·3	55·2	−0·7
0271	138*	10·5	1. 43. 45·1	−1·1	3. 31. 16·4	+1·4
	142*	11·0	46·2	−0·1	16·1	+1·1
	312	10·5	46·2	−0·1	14·2	−0·8
	332	10·5	47·6	+1·2	13·2	−1·8
0278	139*	10·5	1. 46. 57·5	−0·4	3. 48. 16·9	+0·7
	142*	10·0	57·4	−0·5	18·2	+2·0
	332	10·0	58·3	+0·4	13·7	−2·5
	335	10·5	58·2	+0·3	16·1	−0·1
0279	139*	9·5	1. 46. 61·3	+0·1	3. 55. 53·9	+1·0
	144*	9·5	61·1	−0·1	54·2	+1·3
	312	10·0	63·0	−1·8	52·5	−0·4
	332	9·0	59·3	−1·9	50·9	−2·0
0284	134*	9·0	1. 51. 7·8	0·0	1. 30. 47·2	−0·8
	136*	8·5	8·5	+0·3	47·9	−0·1
	349	9·0	8·7	+0·4	47·6	−0·4
	374	9·0	6·1	−0·7	49·1	+1·1
0288	137*	10·5	1. 51. 60·1	+0·4	0. 46. 39·3	0·0
	144*	10·5	60·3	+0·4	39·8	+0·5
	349	10·5	55·2	−0·6	38·0	−1·3
	383	10·5	57·3	−0·2	40·1	+0·8
0291	142*	10·0	1. 52. 20·6	+1·0	3. 14. 57·5	+1·2
	146*	10·0	19·3	−0·1	57·3	+1·0
	312	10·0	19·4	0·0	56·3	0·0
	335	10·0	18·2	−1·0	53·9	−2·4
0293	142*	9·5	1. 53. 20·3	−0·2	3. 19. 3·2	+0·7
	146*	9·5	20·1	−0·4	2·6	+0·1
	312	9·5	20·0	−0·5	0·6	−1·9
	335	9·5	21·6	+1·0	3·7	+1·2
0297	139*	10·5	1. 53. 51·7	+0·7	3. 53. 31·5	+1·4
	144*	10·0	51·7	+0·7	29·4	−0·7
	332	10·0	50·7	−0·3	29·7	−0·4
	337	10·5	49·8	−1·2	29·8	−0·3
0298	142*	10·5	1. 54. 19·2	0·0	3. 59. 13·3	+0·7
	144*	10·5	19·1	−0·1	12·7	+0·1
	332	10·5	19·0	−0·2	12·6	0·0
	339	10·5	19·3	+0·1	11·9	−0·7
0303	134*	10·0	1. 57. 34·0	−0·8	1. 6. 30·5	−0·5
	135*	10·0	37·4	+0·2	31·3	+0·3
	374	9·5	37·5	+0·3	31·4	+0·4
	375	10·0	37·6	+0·3	30·7	−0·3
0305	137*	9·0	1. 58. 52·1	−0·5	1. 57. 18·1	−0·4
	138*	9·0	49·1	−2·0	18·4	−0·1
	374	9·5	55·1	+1·1	17·8	−0·7
	375	9·5	53·9	+0·5	19·5	+1·0
0309	142*	10·5	2. 0. 13·5	−0·8	3. 33. 16·3	+2·5
	144*	10·5	15·8	+1·3	14·4	+0·6
	312	10·5	13·7	−0·7	13·4	−0·4
	326	10·5	14·6	+0·2	10·9	−2·9
0315	137*	10·0	2. 2. 28·2	+0·4	2. 18. 19·5	+0·3
	138*	10·5	27·3	−0·1	20·7	+1·5
	349	10·0	24·3	−1·9	17·0	−2·2
	374	10·5	30·3	+1·7	19·4	+0·2
0321	142*	10·5	2. 9. 6·7	−0·5	3. 51. 29·0	+0·1
	144*	10·5	8·3	+1·1	30·7	+1·8
	312	10·5	6·7	−0·5	26·3	−2·6
	326	10·5	6·9	−0·3	29·4	+0·5
0325	142*	10·5	2. 9. 55·0	+0·1	3. 17. 45·0	−0·3
	144*	10·5	55·0	+0·1	45·7	+0·4
	312	10·5	54·0	−0·8	45·7	+0·4
	326	10·5	55·6	+0·6	44·8	−0·5
0329	137*	10·5	2. 12. 7·5	−0·5	2. 11. 11·5	+1·4
	138*	10·5	8·6	+0·1	10·1	0·0
	349	10·5	9·9	+0·9	8·1	−2·0
	359	10·5	7·6	−0·5	10·5	+0·4
0331	137*	10·0	2. 13. 9·2	−0·6	1. 47. 55·7	+0·4
	138*	10·0	11·0	+0·2	55·3	0·0
	334	10·0	10·9	+0·2	56·2	+0·9
	359	10·5	11·0	+0·2	53·9	−1·4
0334	139*	10·0	2. 13. 42·8	+0·3	3. 39. 10·7	+1·5
	142*	10·0	42·2	−0·3	9·8	+0·6
	312	10·0	41·8	−0·7	7·6	−1·6
	326	10·0	43·3	+0·8	8·7	−0·5
0345	137*	10·5	2. 16. 46·0	+0·8	0. 59. 21·3	+0·2
	138*	10·5	41·7	−0·3	21·4	+0·3
	334	10·5	42·4	−0·1	21·4	+0·3
	374	10·5	41·0	−0·5	20·3	−0·8
0347	136*	9·5	2. 17. 10·5	+1·5	1. 37. 48·9	+1·1
	137*	9·0	6·6	−0·2	48·7	+0·9
	334	9·5	5·9	−0·5	47·9	+0·1
	359	10·0	4·9	−0·9	45·7	−2·1
0352	139*	9·0	2. 20. 9·9	+0·5	3. 35. 24·4	+0·8
	142*	9·0	8·7	−0·7	24·1	+0·5
	144*	9·0	10·1	+0·7	23·8	+0·2
	312	9·0	9·6	+0·2	22·6	−1·0
	326	9·0	8·7	−0·7	22·9	−0·7
0353	138*	10·5	2. 20. 46·1	−0·5	2. 19. 32·9	+0·8
	340	10·5	47·0	+0·1	30·9	−1·2
	381	10·5	48·9	+1·2	31·2	−0·9
	516*	10·5	45·5	−0·9	33·3	+1·2
0356	142*	10·5	2. 21. 52·6	−0·1	3. 53. 49·0	+1·6
	144*	10·5	54·8	+2·1	47·1	−0·3
	312	10·5	52·3	−0·4	46·1	−1·3
	326	10·5	51·2	−1·5	47·4	0·0
0362	136*	10·0	2. 23. 31·7	+0·9	1. 47. 57·9	−0·6
	137*	10·0	28·2	−0·7	58·2	−0·3
	334	10·0	29·5	−0·1	58·7	+0·2
	349	10·0	29·2	−0·2	59·0	+0·5

(a) = 1853 December 14. (b) = 1853 December 30.

0284 on 374. 10 seconds have been taken off the observed R.A.

0305 on 138*. Half-weight to R.A.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0364	142*	10·0	2. 24. 25·4	0·0	3. 25. 33·7	+0·9
	144*	10·0	25·8	+0·4	33·3	+0·5
	312	10·5	25·0	−0·4	32·2	−0·6
	326	10·0	25·5	+0·1	32·1	−0·7
0369	137*	10·0	2. 28. 22·2	+0·1	2. 22. 21·0	−0·8
	138*	10·0	21·0	−0·6	21·6	−0·2
	334	10·0	21·3	−0·4	21·4	−0·4
	340	10·0	23·3	+0·8	23·2	+1·4
0388	142*	10·5	2. 33. 23·7	−0·6	3. 29. 37·6	−0·1
	144*	10·5	25·3	+0·8	37·5	−0·2
	312	10·5	24·2	−0·2	37·2	−0·5
	326	10·5	24·3	−0·1	38·5	+0·8
0393	139*	10·0	2. 35. 19·7	−0·2	3. 3. 10·9	+1·8
	142*	10·0	18·8	−0·9	8·6	−0·5
	326	9·5	19·3	−0·5	7·4	−1·7
	334	10·0	21·9	+1·6	9·4	+0·3
0394	139*	10·0	2. 35. 28·7	+0·1	3. 10. 27·6	+1·6
	142*	9·5	28·6	0·0	25·2	−0·8
	326	9·5	28·5	−0·1	26·3	+0·3
	334	9·0	28·6	0·0	24·8	−1·2
9397	137*	10·5	2. 36. 18·8	+0·2	1. 17. 57·0	−1·0
	163*	10·5	15·3	−1·0	58·8	+0·8
	334	10·5	19·2	+0·3	57·2	−0·8
	381	10·5	19·7	+0·5	58·8	+0·8
0403	139*	10·0	2. 39. 60·1	+0·3	3. 22. 26·3	+1·9
	142*	10·0	61·2	+1·2	25·2	+0·8
	312	10·0	58·5	−1·1	22·1	−2·3
	338	10·0	59·3	−0·4	24·1	−0·3
0404	142*	10·5	2. 40. 19·2	−0·1	3. 50. 43·9	−1·4
	144*	10·5	19·6	+0·3	46·8	+1·5
	326	10·5	19·1	−0·2	44·9	−0·4
	338	10·5	19·1	−0·2	45·5	+0·2
0406	25	9·0	2. 40. 57·8	−1·3	2. 38. 26·3	−0·4
	134*	10·0	60·3	+0·4	26·6	−0·1
	340	10·0	60·1	+0·3	27·4	+0·7
	349	9·5	60·4	+0·5	26·6	−0·1
0409	137*	10·0	2. 42. 27·5	+0·1	1. 43. 41·0	−0·8
	138*	10·0	26·8	−0·2	41·8	0·0
	334	10·0	28·1	+0·4	41·1	−0·7
	340	10·5	26·8	−0·2	43·2	+1·4
0412	25	9·0	2. 43. 20·5	−0·5	2. 10. 29·9	+0·7
	134*	10·0	22·4	+0·6	30·3	+1·1
	163*	9·5	20·0	−0·7	30·1	+0·9
	334	9·5	22·8	+0·9	27·4	−1·8
	340	9·5	21·0	−0·2	28·4	−0·8
0421	142*	10·5	2. 46. 41·6	+2·0	3. 5. 51·9	+0·2
	144*	10·5	39·9	+0·6	53·4	+1·7
	312	10·5	38·8	−0·3	49·6	−2·1
	326	10·5	36·4	−2·3	52·0	+0·3
0428	25	10·0	2. 49. 32·9	+0·7	1. 50. 29·3	−0·4
	137*	10·0	33·0	+0·7	29·6	−0·1
	138*	10·0	30·6	−0·4	30·2	+0·5
	168*	10·0	30·9	−0·3	29·3	−0·4
	340	10·0	29·9	−0·8	30·3	+0·6
0448	142*	10·5	2. 58. 12·6	−0·8	2. 38. 46·7	+2·2
	167*	10·5	13·2	−0·3	44·2	−0·3
	326	10·5	13·7	0·0	42·9	−1·6
	334	10·5	15·2	+1·0	44·0	−0·5
0452	142*	10·5	2. 58. 59·7	+0·7	3. 56. 7·5	+0·2
	168*	10·5	58·6	−0·4	6·9	−0·4
	326	10·5	58·9	−0·1	6·7	−0·6
	334	10·5	58·7	−0·3	8·2	+0·9
0473	142*	10·0	3. 9. 57·4	+0·8	3. 10. 10·4	0·0
	162*	10·0	55·8	−0·6	11·0	+0·6
	168*	10·0	55·9	−0·5	10·3	−0·1
	326	10·0	56·3	−0·2	9·9	−0·5
	334	10·5	57·3	+0·7	10·2	−0·2
0475	25	10·0	3. 11. 11·5	−0·2	0. 55. 38·6	−1·4
	32	—	14·1	+0·4	41·2	+1·2
	135*	10·5	14·7	+0·6	40·2	+0·2
	160*	10·5	9·0	−0·8	40·2	+0·2
0483	142*	10·5	3. 14. 27·5	+0·4	2. 46. 43·5	+0·3
	162*	10·5	26·7	−0·2	43·6	+0·4
	326	10·5	26·0	−0·7	42·7	−0·5
	338	10·5	27·6	+0·4	43·1	−0·1
0490	142*	10·5	3. 19. 9·9	+1·4	3. 34. 23·5	+2·8
	162*	10·5	8·0	−0·4	19·1	−1·6
	312	10·0	7·4	−0·9	19·6	−1·1
	326	10·5	8·1	−0·3	20·5	−0·2
0491	142*	7·0	3. 19. 29·1	+0·5	3. 49. 19·1	−0·1
	162*	7·0	29·0	+0·4	19·7	+0·5
	167*	7·0	27·3	−1·3	19·8	+0·6
	312	7·0	29·2	+0·6	18·5	−0·7
	326	7·0	28·3	−0·3	18·7	−0·5
0497	142*	10·0	3. 21. 49·5	+0·4	3. 44. 27·1	+0·8
	162*	10·0	49·3	+0·2	27·6	+1·3
	312	10·0	48·6	−0·5	25·6	−0·7
	326	10·0	49·1	0·0	24·8	−1·5
0498	167*	10·5	3. 22. 15·1	−0·8	3. 14. 38·5	−0·6
	312	10·5	17·9	+1·6	40·3	+1·2
	326	10·5	14·3	−1·4	37·1	−2·0
	361	10·5	16·7	+0·6	40·6	+1·5
0500	32	10·5	3. 23. 4·3	+0·3	1. 45. 20·0	+0·5
	138*	10·5	5·5	+0·9	19·8	+0·3
	163*	10·5	2·6	−0·5	19·4	−0·1
	359	10·5	1·9	−0·8	18·6	−0·9
0529	138*	10·0	3. 33. 18·5	−1·0	1. 30. 11·1	+0·8
	361	10·0	19·7	−0·5	10·5	+0·2
	374	10·5	26·7	+2·2	9·9	−0·4
	383	10·0	19·1	−0·7	9·6	−0·7
0533	142*	9·5	3. 34. 29·0	−0·3	2. 52. 47·6	+0·6
	167*	10·0	28·6	−0·6	48·0	+1·0
	312	10·0	29·0	−0·3	46·6	−0·4
	326	10·0	30·9	+1·1	45·7	−1·3
0537	167*	10·0	3. 36. 18·4	−0·5	3. 28. 18·4	+1·3
	312	10·0	18·2	−0·6	16·8	−0·3
	361	9·5	20·0	+1·0	17·5	+0·4
	374	10·0	19·0	+0·1	15·8	−1·3
0538	32	10·0	3. 37. 10·3	−0·2	1. 5. 56·6	−0·1
	138*	10·0	9·7	−0·4	57·7	+1·0
	178*	—	10·6	−0·1	55·6	−1·1
	379	10·0	14·8	+1·1	57·1	+0·4
	383	10·0	10·3	−0·2	56·4	−0·3
0542	326	10·0	3. 38. 1·4	−1·1	2. 56. 40·0	+1·5
	338	10·0	1·6	−0·9	36·7	−1·8
	349	10·0	3·7	+0·7	38·1	−0·4
	361	10·0	4·4	+1·2	39·3	+0·8
0545*	25	8·5	3. 38. 41·4	−0·7	2. 6. 17·4	+0·7
	32	9·5	42·1	−0·3	17·9	+1·2
	136*	9·0	45·4	+1·5	17·1	+0·4
	334	9·0	41·5	−0·7	16·7	0·0
	391	9·5	43·2	+0·3	14·2	−2·5
0547	167*	10·5	3. 38. 56·2	+0·1	2. 41. 18·1	−0·9
	326	10·5	57·6	+1·1	18·2	−0·8
	374	10·5	54·1	−1·3	20·6	+1·6
0548	312	10·0	3. 39. 31·5	+0·3	3. 54. 44·9	+0·3
	326	10·5	31·5	+0·3	44·5	−0·1
	374	10·0	30·7	−0·5	44·5	−0·1
0557	142*	10·5	3. 44. 51·6	+0·2	3. 7. 43·9	+2·8
	167*	10·5	50·6	−0·7	41·8	+0·7
	312	10·5	51·7	+0·2	39·2	−1·9
	349	10·5	51·6	+0·2	39·3	−1·8
0558	312	10·5	3. 45. 33·0	−0·3	3. 13. 31·5	−0·5
	326	10·5	33·7	+0·3	32·2	+0·2
	338	10·5	33·2	−0·1	32·4	+0·4
0574	167*	10·5	3. 51. 56·7	−1·0	3. 3. 6·3	+0·6
	312	10·5	59·0	+0·9	5·6	−0·1
	326	10·5	57·8	−0·1	7·5	+1·8
	349	10·5	57·9	0·0	3·3	−2·4
0579	138*	10·5	3. 53. 50·1	+0·2	0. 59. 31·8	+2·5
	170*	10·5	48·2	−0·3	28·6	−0·7
	361	10·5	48·7	−0·2	29·1	−0·2
	391	10·5	50·9	+0·4	27·7	−1·6
0585	22	10·5	3. 55. 56·3	−0·1	1. 11. 30·8	−0·6
	27	10·5	55·1	−0·5	30·7	−0·7
	29	10·5	56·0	−0·2	32·3	+0·9
	32	10·5	60·8	+1·3	32·2	+0·8
	135*	10·5	55·9	−0·2	32·1	+0·7
	137*	10·5	55·5	−0·3	30·5	−0·9
0600	167*	9·5	4. 3. 15·5	−0·2	3. 7. 10·3	+1·0
	168*	10·0	16·4	+0·6	10·2	+0·9
	312	10·0	15·3	−0·3	8·5	−0·8
	326	10·5	16·1	+0·3	8·2	−1·1
	334	9·5	15·4	−0·2	9·4	+0·1
0602	167*	10·5	4. 4. 33·6	+0·5	3. 5. 45·2	+2·2
	326	11·0	30·8	−1·8	38·2	−4·8
	334	10·5	33·6	+0·5	43·1	+0·1
0617	167*	10·0	4. 10. 52·5	−0·7	3. 51. 21·9	+1·7
	326	10·0	53·5	+0·3	21·1	+0·9
	338	10·5	53·5	+0·3	18·0	−2·2
	342	10·0	53·1	−0·1	19·8	−0·4
0619	32	9·5	4. 11. 2·1	−1·0	2. 24. 5·3	0·0
	138*	9·5	4·7	+0·6	4·3	−1·0
	168*	10·0	3·9	+0·1	4·8	−0·5
	526*	10·0	3·8	+0·1	6·0	+0·7
	534*	10·0	4·1	+0·3	6·2	+0·9

0490 Preceding star of a Double. The companion faint.
0579 on 391. 10 seconds have been taken off the observed R.A.
0602 on 326. Half-weight to both elements.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
0627	32	10·5	4. 15. 24·2	−0·5	1. 56. 55·6	−0·8	0740	167*	10·5	5. 1. 9·0	+0·2	3. 10. 36·9	+0·1
	137*	10·5	26·9	+0·9	55·9	−0·5		199*	10·5	7·4	−1·1	36·0	−0·8
	334	10·5	26·6	+0·7	57·7	+1·3		326	10·5	8·5	−0·2	35·3	−1·5
	349	10·5	23·1	−1·1	56·2	−0·2		338	11·0	9·7	+0·8	41·5	+4·7
0628	167*	10·0	4. 15. 38·1	0·0	3. 57. 3·7	+1·8	0741	326	10·0	5. 2. 34·7	−0·7	3. 42. 33·8	−0·1
	326	10·0	37·7	−0·4	1·8	−0·1		342	9·5	36·1	+0·7	33·4	−0·5
	338	10·0	39·4	+1·4	1·3	−0·6		374	9·5	35·4	0·0	34·4	+0·5
	342	10·0	37·2	−0·9	0·7	−1·2	0743	199*	9·5	5. 2. 46·1	−1·1	3. 5. 62·2	+1·5
0629	167*	10·5	4. 16. 25·7	−1·1	3. 36. 50·9	−0·6		204*	10·0	46·9	−0·4	58·8	−1·9
	326	10·5	28·3	+1·3	50·0	−1·5		326	10·0	49·2	+1·5	63·0	+2·3
	335	10·5	26·6	−0·3	53·6	+2·1		338	10·0	47·2	−0·2	59·0	−1·7
	342	10·5	27·1	+0·2	51·3	−0·2		374	10·0	47·7	+0·2	60·5	−0·2
0635	167*	10·0	4. 18. 25·8	−0·2	3. 48. 25·2	+0·7	0774	27	10·5	5. 3. 25·9	+1·3	1. 40. 47·9	+1·0
	335	10·0	25·9	−0·1	25·7	+1·2		53	10·5	24·4	+0·7	46·1	−0·8
	338	10·0	25·0	−1·0	24·5	0·0		202*	10·5	20·1	−1·2	48·0	+1·1
	361	10·0	27·2	+1·2	22·7	−1·8		203*	10·5	21·3	−0·7	45·5	−1·4
0640	168*	9·5	4. 19. 51·9	+0·4	3. 22. 37·4	+1·1	0753	332	10·5	5. 7. 43·9	+0·9	3. 54. 39·9	+0·5
	326	9·0	51·1	−0·3	36·2	−0·1		379	10·5	44·2	+1·2	38·7	−0·7
	338	9·5	51·6	+0·2	35·0	−1·3		528*	10·5	42·0	−1·0	39·0	−0·4
	342	9·0	50·8	−0·5	36·5	+0·2		535*	10·5	42·0	−1·0	40·0	+0·6
0644	22	10·0	4. 22. 7·5	−1·9	2. 16. 30·0	−2·6	0758	199*	9·0	5. 9. 47·7	−0·7	3. 2. 27·4	+1·5
	32	10·5	12·2	+1·0	33·4	+0·8		204*	9·0	48·5	−0·1	26·0	+0·1
	135*	10·5	12·0	+0·8	34·3	+1·7		326	10·0	48·9	+0·2	24·7	−1·2
	138*	10·5	10·5	−0·1	32·8	+0·2		338	10·0	49·1	+0·4	25·5	−0·4
0660	22	10·5	4. 29. 24·8	+0·8	2. 0. 2·4	+0·3	0760	199*	10·5	5. 11. 11·0	−0·9	2. 54. 56·7	+1·3
	27	10·5	21·1	−1·1	4·2	+2·1		204*	10·5	11·1	−0·8	54·6	−0·8
	137*	10·5	24·8	+0·8	0·9	−1·2		338	11·0	14·0	+1·4	55·9	+0·5
	138*	10·5	22·0	−0·6	0·7	−1·4		349	10·5	12·7	+0·4	54·5	−0·9
0662	167*	8·0	4. 30. 8·1	−0·5	3. 55. 44·5	+0·8	0761	199*	10·5	5. 11. 13·4	−1·2	3. 9. 1·0	−0·4
	326	9·0	9·3	+0·7	42·8	−0·9		342	10·5	15·7	+0·7	0·9	−0·5
	338	9·0	8·3	−0·3	44·2	+0·5		374	10·5	15·3	+0·4	2·4	+1·0
	342	8·5	8·5	−0·1	43·4	−0·3	0763	27	9·5	5. 11. 56·0	−1·2	1. 36. 24·1	+0·2
0668	138*	10·5	4. 31. 45·8	+1·0	1. 30. 31·2	−1·4		53	10·0	58·7	−0·1	23·6	−0·3
	168*	10·5	41·9	−0·6	34·0	+1·4		137*	9·5	62·8	+1·6	23·1	−0·8
	526*	11·0	43·1	−0·1	31·9	−0·7		201*	9·5	57·9	−0·4	24·7	+0·8
	528*	10·5	42·3	−0·4	33·3	+0·7	0772	199*	10·5	5. 17. 29·3	−1·8	2. 47. 23·2	+0·1
0670	326	10·0	4. 32. 12·4	−0·6	3. 21. 6·6	−0·5		204*	10·5	33·2	+1·1	22·4	−0·7
	342	9·5	14·3	+1·1	7·5	+0·4		338	11·0	29·7	−1·5	24·8	+1·7
	349	10·0	12·6	−0·4	5·9	−1·2		349	10·5	34·5	+2·1	22·1	−1·0
	361	10·0	13·2	+0·1	8·4	+1·3	0778	27	10·0	5. 19. 18·1	+0·4	1. 4. 15·0	−1·4
0672	167*	10·5	4. 32. 42·8	+0·2	3. 48. 4·1	+1·7		53	10·0	17·3	+0·1	17·3	+0·9
	338	10·5	42·4	−0·2	1·6	−0·8		137*	10·0	18·2	+0·4	15·7	−0·7
	361	10·5	42·7	+0·1	1·4	−1·0		202*	10·0	13·7	−0·9	17·5	+1·1
0679	27	10·5	4. 35. 5·3	+0·4	1. 52. 47·4	−3·2	0783	43	8·5	5. 22. 4·0	+0·5	2. 42. 6·3	−0·8
	137*	10·5	4·8	+0·1	54·1	+3·5		58	9·0	3·8	+0·4	5·4	−1·7
	138*	10·5	4·3	−0·1	47·3	−3·3		168*	9·0	3·8	+0·4	8·2	+1·1
	334	10·5	3·6	−0·4	53·4	+2·8		199*	8·0	1·6	−0·6	8·7	+1·6
0683	162*	10·5	4. 36. 20·9	−0·2	4. 7. 37·8	0·0		202*	9·0	1·5	−0·6	8·2	+1·1
	326	10·5	21·3	+0·2	37·7	−0·1		204*	8·5	4·2	+0·6	7·1	0·0
0684	162*	10·0	4. 36. 27·3	−1·2	4. 7. 18·3	+1·6		326	—	0·8	−0·9	6·7	−0·4
	326	10·0	28·3	−0·1	16·8	+0·1		332	9·0	3·1	+0·1	5·8	−1·3
	361	10·5	28·7	+0·3	15·8	−0·9	0791	20	11·0	5. 25. 59·4	+0·7	1. 25. 1·3	−1·0
	374	10·5	29·2	+0·9	15·8	−0·9		43	10·5	56·9	−0·3	3·5	+1·2
0688	338	10·5	4. 39. 2·0	−1·2	4. 6. 37·9	−0·9		53	10·0	58·1	+0·2	2·3	0·0
	361	10·5	3·0	−0·1	38·1	−0·7		202*	10·0	52·8	−1·8	1·8	−0·5
	374	10·5	4·4	+1·4	40·5	+1·7		203*	10·5	60·8	+1·2	2·5	+0·2
0689	167*	10·5	4. 39. 7·9	−0·6	3. 35. 14·5	+0·7	0797	199*	9·0	5. 29. 2·2	−0·4	3. 35. 22·8	+1·0
	326	10·5	9·0	+0·5	11·9	−1·9		205*	9·0	3·1	+0·5	22·5	+0·7
	342	10·0	8·5	0·0	15·5	+1·7		332	9·0	3·2	+0·6	21·1	−0·7
	361	10·5	8·7	+0·2	13·2	−0·6		334	9·0	1·9	−0·7	20·6	−1·2
0699	167*	10·0	4. 40. 59·5	−1·0	2. 55. 52·7	−0·2	0804	204*	10·5	5. 30. 47·4	+0·3	3. 41. 11·9	+0·4
	170*	10·5	62·9	+1·6	53·0	+0·1		205*	10·5	46·6	−0·5	11·0	−0·5
	342	10·5	59·7	−0·8	52·6	−0·3		332	10·5	47·8	+0·7	11·5	0·0
	349	10·5	61·2	+0·3	53·1	+0·2		334	10·5	46·7	−0·4	11·4	−0·1
0707	162*	10·5	4. 45. 40·2	+1·1	2. 39. 11·3	+0·8	0814	170*	10·5	5. 35. 41·4	−0·5	2. 49. 42·7	+1·3
	167*	10·5	38·2	−0·3	10·9	+0·4		199*	10·0	40·2	−1·4	41·4	0·0
	326	10·5	38·1	−0·4	8·8	−1·7		332	10·0	43·0	+0·7	40·5	−0·9
	334	10·5	38·0	−0·4	10·9	+0·4		334	10·5	43·8	+1·3	41·1	−0·3
0731	204*	10·0	4. 58. 7·8	−0·6	3. 45. 16·8	+0·5	0822	20	11·0	5. 40. 15·0	+0·2	1. 22. 33·0	−1·0
	342	10·0	7·8	−0·6	15·6	−0·7		25	10·5	13·5	−0·3	32·9	−1·1
	374	10·5	9·7	+1·3	16·4	+0·1		43	10·5	18·5	+1·5	35·7	+1·7
0734	137*	10·5	4. 58. 64·3	+1·2	1. 57. 13·7	+0·2		53	10·5	15·7	+0·5	33·1	−0·9
	349	10·5	64·8	+1·5	13·9	+0·4		201*	10·5	10·7	−1·3	35·1	+1·1
	383	10·5	62·4	+0·3	14·2	+0·7		202*	10·5	12·8	−0·6	34·2	+0·2
	528*	11·0	58·9	−1·5	14·0	+0·5	0823	39	10·0	5. 40. 58·1	+0·8	1. 40. 10·4	+1·0
	534*	11·0	59·2	−1·4	11·9	−1·6		53	9·5	56·7	+0·2	10·4	+1·0
0739	20	10·0	5. 0. 40·1	−1·0	1. 18. 26·1	+0·4		137*	9·5	60·3	+1·8	8·1	−1·3
	27	9·5	42·2	−0·3	24·9	−0·8		201*	10·0	53·1	−1·4	9·1	−0·3
	53	9·5	41·4	−0·6	26·2	+0·5		203*	9·5	53·3	−1·3	8·8	−0·6
	137*	9·5	43·2	0·0	25·5	−0·2							
	138*	9·5	48·5	+1·9	25·8	+0·1							

0669. The second of two stars.
0679. Faint. Unusually discordant. The reductions have been re-examined.
0734. Faint. Preceded by another still fainter.
0740 on 338. Bad bisection. Half-weight.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0830	199*	10·5	5. 43. 11·7	−0·2	4. 1. 60·2	+2·6
	203*	10·5	11·7	−0·2	58·2	+0·6
	332	10·5	11·6	−0·3	54·6	−3·0
	359	10·5	12·4	+0·5	57·5	−0·1
0833	25	10·5	5. 43. 39·7	−1·1	0. 54. 1·6	−1·1
	58	10·5	48·6	+1·0	3·1	+0·4
	168*	10·5	45·2	+0·2	4·1	+1·4
	201*	10·5	43·8	−0·1	2·0	−0·7
	203*	10·5	43·7	−0·1	2·5	−0·2
0846	199*	10·5	5. 49. 41·0	−1·3	3. 11. 59·8	+2·0
	203*	10·5	44·4	+1·6	56·0	−1·8
	526*	10·5	41·2	−1·1	58·6	+0·8
	534*	10·5	43·3	+0·7	56·9	−0·9
0847	25	10·5	5. 49. 61·8	−0·1	1. 8. 47·7	−0·6
	39	10·5	71·3	+2·7	49·9	+1·3
	53	10·0	63·3	+0·4	48·5	+0·2
	201*	10·0	58·4	−1·1	48·2	−0·1
	202*	10·5	60·2	−0·6	47·3	−1·0
0861	61	—	5. 56. 49·1	−1·6	3. 44. 38·9	+1·3
	199*	10·0	51·5	+0·8	39·7	+2·1
	205*	10·0	51·2	+0·5	37·1	−0·5
	332	10·0	50·1	−0·6	37·1	−0·5
	351	10·0	51·7	+1·0	35·4	−2·2
0862	58	10·5	5. 56. 63·0	+0·1	0. 56. 24·7	−0·3
	59	10·5	63·4	+0·2	26·5	+1·5
	202*	10·5	58·6	−1·0	24·5	−0·5
	225*	10·5	63·5	+0·2	24·1	−0·9
0869	201*	10·5	5. 58. 18·1	−2·5	3. 11. 2·4	−0·8
	534*	11·0	25·7	+3·8	3·5	+0·3
	576*	10·5	19·6	−1·2	2·6	−·6
	585*	10·5	21·1	0·0	4·4	+1·2
0871	199*	9·5	6. 0. 3·7	−0·5	2. 36. 18·7	+2·2
	203*	9·5	5·7	+0·9	16·3	−0·2
	332	9·5	4·0	−0·3	16·4	−0·1
	334	9·5	4·0	−0·3	14·6	−1·9
0878	199*	10·0	6. 2. 46·7	−0·7	3. 27. 46·9	+1·0
	202*	10·5	47·9	+0·4	44·7	−1·2
	338	10·0	48·3	+0·7	47·1	+1·2
	351	10·0	46·9	−0·5	45·0	−0·9
0884	199*	10·5	6. 4. 41·5	−0·5	3. 2. 27·8	+1·5
	201*	10·5	43·0	+0·7	25·7	−0·6
	332	10·5	41·6	−0·4	25·4	−0·9
	334	10·5	42·1	0·0	26·1	−0·2
0888	201*	10·5	6. 6. 3·6	−0·6	3. 3. 55·2	−1·7
	332	11·0	3·8	−0·5	57·5	+0·6
	534*	11·0	5·0	+0·5	56·3	−0·6
	576*	10·5	5·2	+0·6	58·4	+1·5
0889	61	9·5	6. 6. 12·3	+1·9	3. 55. 35·1	+0·5
	64	—	11·1	+0·6	34·7	+0·1
	203*	9·5	9·9	−0·6	35·4	+0·8
	205*	9·0	10·8	+0·3	34·3	−0·3
	233*	9·5	9·3	−1·2	34·4	−0·2
	351	9·5	9·4	−1·1	33·6	−1·0
0894	199*	10·5	6. 7. 39·7	0·0	3. 7. 54·8	+2·5
	201*	10·5	40·0	+0·2	52·2	−0·1
	332	10·5	40·0	+0·2	50·1	−2·2
	334	10·0	39·0	−0·6	51·9	−0·4
0895	61	10·5	6. 8. 51·8	+0·1	3. 54. 35·7	−1·4
	233*	10·5	51·3	−0·4	38·5	+1·4
	351	10·5	51·6	−0·1	37·1	0·0
	359	10·5	52·1	+0·4	37·1	0·0
0897	20	9·0	6. 9. 56·5	−0·4	2. 26. 51·8	+0·2
	27	9·0	55·6	−0·7	52·1	+0·5
	39	9·0	58·3	+0·3	52·8	+1·2
	202*	9·0	57·7	+0·1	51·6	0·0
	203*	9·0	59·1	+0·6	50·4	−1·2
	204*	9·0	58·1	+0·2	51·1	−0·5
0900	212*	10·5	6. 10. 24·1	−0·4	3. 47. 9·4	−0·3
	225*	10·5	23·5	−1·0	10·5	+0·8
	334	10·5	26·3	+1·8	9·0	−0·7
	351	10·5	24·1	−0·4	9·8	+0·1
0902	61	10·0	6 11. 34·2	−0·6	3. 58. 34·4	−0·1
	199*	10·5	34·4	−0·4	34·0	−0·5
	227*	10·0	35·6	+0·8	34·3	−0·2
	233*	10·0	35·2	+0·4	35·8	+1·3
	338	10·5	34·6	−0·2	33·8	−0·7
0903	223*	10·0	6. 11. 38·0	+0·3	2. 42. 11·0	+1·0
	227*	10·0	38·6	+0·7	10·0	0·0
	332	10·0	36·3	−0·9	8·9	−1·1
	338	10·0	37·3	−0·2	10·1	+0·1

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0906	58	10·0	6. 12. 32·3	+0·7	2. 0. 13·4	+0·2
	59	10·0	32·6	+0·8	14·0	+0·8
	202*	9·5	28·8	−1·2	12·1	−1·1
	204*	9·5	30·2	−0·4	13·1	−0·1
0912	58	10·5	6. 14. 44·6	+0·1	1. 52. 29·1	−0·3
	59	10·5	45·6	+0·6	28·7	−0·7
	204*	10·5	42·5	−0·9	31·5	+2·1
	205*	10·5	44·4	0·0	28·4	−1·0
0917	212*	10·0	6. 16. 26·9	−1·0	3. 30. 15·7	−0·1
	227*	10·0	28·7	+0·6	18·4	+2·6
	332	10·0	27·4	−0·6	14·3	−1·5
	334	10·0	28·8	+0·7	14·9	−0·9
0920	220*	9·5	6. 17. 17·7	−0·1	3. 58. 8·8	0·0
	223*	10·0	17·0	−0·8	9·6	+0·8
	233*	10·0	18·3	+0·5	8·7	−0·1
	332	10·0	18·1	+0·3	7·3	−1·5
	338	10·0	17·7	−0·1	9·5	+0·7
0934	212*	10·5	6. 23. 15·4	−1·2	3. 43. 45·5	−0·6
	233*	10·5	17·5	+0·9	47·2	+1·1
	332	10·5	16·8	+0·2	45·5	−0·6
	342	10·5	16·7	+0·1	46·2	+0·1
0935	227*	10·0	6. 23. 32·9	+0·2	3. 59. 52·9	−0·4
	236*	10·0	33·5	+0·8	54·1	+0·8
	334	10·0	32·8	+0·1	52·7	−0·6
	338	10·0	31·5	−1·3	53·5	+0·2
0940	233*	11·0	6. 25. 31·0	+1·0	3. 46. 21·9	−0·5
	241*	11·0	26·9	−3·1	23·1	+0·7
	332	11·0	30·7	+0·7	18·7	−3·7
	342	10·5	31·3	+1·3	25·9	+3·5
0948	59	10·5	6. 28. 10·7	+0·4	2. 23. 6·9	−0·2
	61	10·5	8·8	−0·8	7·1	0·0
	202*	10·5	11·1	+0·7	6·8	−0·3
	205*	10·5	9·5	−0·3	7·5	+0·4
0958	212*	9·5	6. 31. 46·8	−0·2	3. 28. 47·0	+1·4
	223*	9·5	47·4	+0·4	45·9	+0·3
	332	10·0	46·8	−0·2	45·3	−0·3
	338	9·5	47·1	+0·1	44·2	−1·4
0975	59	10·5	6. 37. 56·8	+0·4	3. 4. 15·9	+1·3
	60	10·5	56·0	−0·2	14·4	−0·2
	199*	10·5	55·7	−0·5	14·2	−0·4
	204*	10·5	56·5	+0·2	13·9	−0·7
0981	60	10·0	6. 41. 29·5	+0·6	3. 30. 48·4	−1·5
	61	10·0	29·0	+0·2	48·7	−1·2
	200*	10·0	28·8	0·0	51·4	+1·5
	208*	10·5	29·6	+0·7	51·0	+1·1
	223*	10·0	27·1	−1·6	50·0	+0·1
0982	60	10·5	6. 41. 47·4	0·0	3. 29. 5·1	+0·7
	61	11·0	47·8	+0·4	4·0	−0·4
	220*	10·5	47·4	0·0	5·3	+0·9
	223*	10·5	46·8	−0·6	3·2	−1·2
0987	59	10·0	6. 42. 31·5	+0·7	3. 3. 0·3	−1·5
	64	10·0	29·4	−1·0	1·3	−0·3
	199*	10·0	29·9	−0·6	3·6	+1·8
	204*	10·0	31·7	+0·9	1·9	+0·1
0991	61	10·5	6. 44. 11·0	−0·2	2. 34. 3·8	−0·9
	223*	10·5	10·7	−0·4	4·7	0·0
	233*	11·0	11·3	0·0	4·3	−0·4
	332	11·0	12·3	+0·7	6·1	+1·4
0996	59	10·5	6. 46. 56·5	+0·7	3. 9. 31·9	−0·3
	64	10·5	55·0	−0·5	30·8	−1·4
	199*	10·5	55·4	−0·2	33·1	+0·7
	200*	10·5	55·5	−0·1	33·0	+0·8
0997	20	10·0	6. 46. 60·1	−0·2	1. 59. 24·4	+0·2
	23	9·5	61·3	+0·4	24·5	+0·3
	48	9·5	60·3	−0·1	23·4	−0·8
	58	9·5	59·9	−0·3	23·7	−0·5
	202*	9·5	63·2	+1·4	23·3	−0·9
	203*	9·5	58·2	−1·2	25·9	+1·7
1002	59	10·0	6. 50. 17·0	+1·0	2. 59. 43·4	−0·4
	60	10·0	15·8	+0·1	44·0	+0·2
	170*	10·0	14·8	−0·7	43·7	−0·1
	199*	10·0	15·5	−0·2	43·9	+0·1
	212*	10·0	15·5	−0·2	43·9	+0·1
1003	60	9·5	6. 51. 56·9	+0·5	3. 23. 12·9	+0·4
	61	9·5	56·2	−0·1	12·4	−0·1
	200*	9·5	56·3	0·0	13·0	+0·5
	204*	9·5	56·0	−0·3	12·4	−0·1
	220*	9·5	56·1	−0·2	11·7	−0·8
1004	59	10·5	6. 52. 1·5	−0·4	2. 48. 29·4	−1·3
	64	10·5	0·0	−1·5	28·8	−1·9
	199*	10·5	3·6	+1·1	32·4	+1·7
	208*	10·5	3·4	+1·0	32·3	+1·6

0847 on 39. Faint. Half-weight to R.A.
0862 on 202*. Faint. Half-weight to R.A.
0889. South-preceding star of a double.
0996. A still smaller star south-preceding.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1005	60	8·5	6. 52. 53·6	0·0	3. 20. 45·3	− 1·0
	61	9·0	53·5	− 0·1	45·4	− 0·9
	200*	9·0	53·8	+ 0·2	47·8	+ 1·5
	204*	9 0	54·2	+ 0·5	46·5	+ 0·2
	220*	9·0	53·0	− 0·5	46·6	+ 0·3
1013	59	10·5	6. 54. 51·4	− 0·5	3. 29. 8·7	+ 0·7
	60	10·5	51·8	− 0·2	7·1	− 0·9
	200*	10·0	51·9	− 0·1	7·6	− 0·4
	208*	10·5	52·8	+ 0·7	8·4	+ 0·4
1015	64	10·5	6. 55. 27·8	− 0·9	2. 54. 25·2	+ 0·6
	212*	10·5	30·3	+ 1·0	25·0	+ 0·4
	223*	10·5	28·8	− 0·2	23·6	− 1·0
1022	23	10·0	6. 58. 0·7	− 0·8	1. 48. 1·6	0·0
	48	10·5	3·1	+ 0·3	2·1	+ 0·5
	203*	10 5	1·0	− 0·7	1·9	+ 0·3
	204*	10·5	4·8	+ 1·1	0·9	− 0·7
1043	60	10·0	7. 6. 1.6	− 0·2	3. 9. 5·0	− 0·6
	61	10·5	2·0	+ 0·1	4·4	− 1·2
	199*	10·5	2·5	+ 0·5	7·7	+ 2·1
	200*	10·5	1·6	− 0·2	5·3	− 0·3
1046	23	10·0	7. 8. 21·9	0·0	1. 14. 36·5	+ 0·6
	27	10·0	18·8	− 1·0	35·4	− 0·5
	202*	10·0	23·0	+ 0·4	35·3	− 0·6
	203*	10·0	23·2	+ 0·5	36·4	+ 0·5
	229*	10·0	22·0	+ 0·1	35·9	0·0
1049	39	10·5	7. 9. 51·5	+ 0·7	2. 22. 58·6	0·0
	58	10·5	47·8	− 1·6	59·4	+ 0·8
	201*	10·0	49·3	− 0·6	58·0	− 0·6
	204*	10·5	52·5	+ 1·4	58·3	− 0·3
1052	23	10·5	7. 10. 54·3	+ 0·2	2. 11. 43·1	+ 0·9
	58	10·5	52·4	− 0·9	41·6	− 0·6
	201*	10·5	54·4	+ 0·2	42·3	+ 0·1
	202*	10·5	55·0	+ 0·6	41·6	− 0·6
1058	60	10·5	7. 13. 8·0	− 0·1	4. 1. 61·4	+ 0·6
	61	10·5	8·5	+ 0·4	60·1	− 0·7
	200*	10·5	8·0	− 0·1	63·2	+ 2·4
	212*	10·5	7·7	− 0·4	58·5	− 2·3
1060	233*	10·5	7. 14. 0·2	− 0·5	0. 59. 1·6	− 1·0
	235*	10·5	2·8	+ 0·2	3·6	+ 1·0
	247*	10·5	3·3	+ 0·3	2·5	− 0·1
1061	61	10·5	7. 14. 15·4	+ 0·3	4. 11. 31·1	− 0·1
	64	10·5	14·3	− 0·9	32·0	+ 0·8
	200*	10·0	14·8	− 0·3	31·6	+ 0·4
	212*	10·5	15·8	+ 0·8	30·2	− 1·0
1064	61	10·0	7. 14. 61·8	+ 1·2	4. 5. 31·3	− 1·3
	64	10·0	58·9	− 1·9	33·8	+ 1·2
	200*	9·5	61·2	+ 0·5	33·7	+ 1·1
	212*	10·0	60·9	+ 0·2	31·7	− 0·9
1081	59	10·5	7. 22. 3·4	+ 1·2	2. 56. 37·1	+ 0·6
	61	10·0	1·5	− 0·2	36·1	− 0·4
	223*	10·0	1·1	− 0·5	37·0	+ 0·5
	227*	10·5	1·3	− 0·4	35·6	− 0·9
1082	59	9·5	7. 22. 2·1	− 0·8	3. 17. 13·0	− 0·5
	60	10·0	4·1	+ 0·9	13·2	− 0·3
	200*	9·5	3·4	+ 0·3	14·0	+ 0·5
	212*	10·0	2·4	− 0·5	13·8	+ 0·3
1086	48	10·5	7. 23. 10·5	0·0	1. 9. 24·1	+ 0·5
	233*	11·0	9·9	− 0·2	22·1	− 1·5
	235*	10·5	11·3	+ 0·2	24·5	+ 0·9
1089	27	10·0	7. 24. 42·6	+ 0·3	1. 12. 17·1	+ 1·1
	39	10·0	40·7	− 0·3	15·3	− 0·7
	48	10·0	40·9	− 0·3	15·6	− 0·4
	58	10·0	42·2	+ 0·1	16·2	+ 0·2
	203*	10·0	41·6	− 0·1	15·8	− 0·2
	204*	10·0	42·8	+ 0·3	16·1	+ 0·1
1093	59	10·5	7. 27. 3·3	+ 0·6	3. 16. 45·5	+ 4·0
	60	10·5	0·9	− 1·5	40·8	− 0·7
	212*	10·5	3·0	+ 0·3	40·7	− 0·8
	223*	10·5	3·3	+ 0·7	40·9	− 0·6
1094	60	10·0	7. 27. 32·4	− 0·7	3. 9. 54·3	− 0·2
	61	10·0	34·6	+ 1·1	54·3	− 0·2
	200*	9·5	33·5	+ 0·2	55·1	+ 0·6
	212*	10·0	32·8	− 0·4	54·3	− 0·2
1095	27	10·0	7. 27. 51·1	+ 0·3	0. 58. 21·7	− 0·4
	39	10·0	50·0	0·0	22·2	+ 0·1
	203*	10·0	46·2	− 0·9	22·5	+ 0·4
	204*	10·0	52·1	+ 0·6	22·0	− 0·1
	233*	10·0	50·0	0·0	22·4	+ 0·3
1097	59	8·5	7. 28. 43·7	+ 0·3	3. 13. 38·3	+ 0·3
	61	9·0	42·9	− 0·3	36·1	− 1·9
	200*	9·0	43·1	− 0·2	38·1	+ 0·1
	212*	9·0	43·8	+ 0·4	38·4	+ 0·4
	223*	9·0	43·2	− 0·1	39·0	+ 1·0

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1106	60	10·5	7. 30. 37·5	− 0·4	3. 8. 49·2	+ 0·4
	61	10·5	37·7	− 0·2	47·6	− 1·2
	200*	10·5	38·8	+ 0·7	50·8	+ 2·0
	212*	10·5	38·0	0·0	47·6	− 1·2
1110	27	10·0	7. 32. 43·4	+ 0·6	1. 59. 60·6	− 0·3
	58	10·5	42·1	− 0·1	62·2	+ 1·3
	204*	10·0	42·7	+ 0·2	60·8	− 0·1
	208*	10·0	40·8	− 0·8	59·9	− 1·0
1117	59	10·5	7. 34. 46·5	+ 0·2	3. 36. 35·5	+ 0·8
	64	10·0	47·0	+ 0·7	34·3	− 0·4
	200*	10·0	45·6	− 0·7	34·0	− 0·7
	223*	10·5	46·0	− 0·3	35·0	+ 0·3
1123	60	9·0	7. 37. 8·8	+ 0·1	3. 54. 0·1	− 0·6
	61	8·5	8·6	− 0·1	1·0	+ 0·3
	200*	8·5	9·1	+ 0·4	0·8	+ 0·1
	223*	8·5	8·3	− 0·4	0·8	+ 0·1
1124	59	10·5	7. 37. 31·7	+ 0·8	3. 29. 18·0	− 0·2
	60	10·5	28·3	− 2·3	16·4	− 1·8
	223*	10·5	31·0	+ 0·2	18·1	− 0·1
	228*	10·5	32·1	+ 1·2	20·2	+ 2·0
1135	53	11·0	7. 43. 8·1	− 0·8	1. 45. 17·1	+ 0·4
	55	11·0	12·1	+ 1·0	16·2	− 0·5
	204*	10·5	11·2	+ 0·6	17·3	+ 0·6
	208*	10·5	8·0	− 0·9	16·3	− 0·4
1140	20	11·0	7. 44. 47·0	+ 0·9	1. 39. 55·0	+ 1·0
	27	10·5	44·0	− 0·4	53·8	− 0·2
	53	10·0	45·1	0·0	52·6	− 1·4
	204*	10·0	43·7	− 0·6	54·6	+ 0·6
	208*	10·5	45·4	+ 0·2	54·2	+ 0·2
1149	23	10·5	7. 48. 50·1	− 0·3	1. 13. 3·7	+ 2·0
	27	10·5	51·8	+ 0·3	0·7	− 1·0
	202*	10·5	51·6	+ 0·2	1·0	− 0·7
	204*	10·5	50·6	− 0·1	1·2	− 0·5
1150	59	10·5	7. 49. 37·4	− 0·5	2. 56. 0·2	− 1·4
	60	10·5	36·7	− 1·0	2·5	+ 0·9
	200*	10·0	39·9	+ 1·5	1·6	0·0
	223*	10·5	38·1	+ 0·1	2·1	+ 0·5
1155	55	10·5	7. 53. 3·2	− 1·1	3. 51. 40·8	+ 1·0
	229*	10·5	5·4	+ 1·1	39·0	− 0·8
	247*	10·5	4·2	− 0·1	39·5	− 0·3
1156	59	10·0	7. 53. 23·3	− 0·5	3. 18. 35·3	− 2·1
	60	10·0	23·3	− 0·5	36·4	− 1·0
	200*	10·0	24·4	+ 0·4	38·9	+ 1·5
	204*	10·0	24·7	+ 0·7	39·0	+ 1·6
1157	59	10·0	7. 53. 34·0	− 0·3	3. 10. 43·0	− 1·8
	60	10·0	33·1	− 1·1	45·9	+ 1·1
	200*	10·0	34·7	+ 0·3	45·5	+ 0·7
	204*	10·0	35·7	+ 1·1	44·7	− 0·1
1170	27	10·5	7. 57. 37·9	+ 0·1	1. 58. 17·2	+ 1·9
	39	10·5	37·6	− 0·1	14·3	− 1·0
	53	10·0	37·6	− 0·1	15·6	+ 0·3
	201*	10·5	39·8	+ 1·1	14·3	− 1·0
	202*	10·5	35·5	− 1·1	15·0	− 0·3
1171	55	10·5	7. 57. 57·1	+ 0·2	3. 50. 43·2	− 0·2
	60	11·0	55·6	− 1·3	43·9	+ 0·5
	228*	10·5	57·6	+ 0·7	44·2	+ 0·8
	229*	10·5	57·1	+ 0·2	42·1	− 1·3
1180	59	10·5	8. 0. 35·8	− 0·1	2. 48. 18·1	− 1·0
	64	10·5	35·9	0·0	19·3	+ 0·2
	200*	10·5	36·3	+ 0·3	18·2	− 0·9
	208*	10·5	35·6	− 0·2	20·8	+ 1·7
1182	59	10·5	8. 2. 25·7	+ 0·2	2. 48. 6·9	− 0·7
	64	10·5	24·9	− 0·1	6·1	− 1·5
	200*	10·5	25·2	0·0	7·6	0·0
	208*	10·5	25·0	− 0·1	9·9	+ 2·3
1183	23	10·0	8. 2. 50·2	− 1·0	2. 5. 45·1	+ 1·2
	27	10·0	51·7	− 0·2	43·4	− 0·5
	39	10·0	53·3	+ 0·7	44·3	+ 0·4
	201*	10·0	53·9	+ 1·0	43·7	− 0·2
	202*	10·0	50·7	− 0·7	42·9	− 1·0
1189	60	10·0	8. 4. 45·4	− 1·2	3. 39. 50·4	− 0·7
	90	10·0	47·4	+ 0·8	51·5	+ 0·4
	229*	10·0	46·5	− 0·1	51·4	+ 0·3
	233*	10·5	47·1	+ 0·5	50·9	− 0·2
1190	60	9·0	8. 4. 52·0	+ 0·1	3. 43. 25·5	− 1·2
	95	—	50·9	− 1·0	26·6	− 0·1
	229*	9·0	52·7	+ 0·8	27·4	+ 0·7
	235*	9·0	52·1	+ 0·2	27·1	+ 0·4
1193	39	9·5	8. 6. 9·4	− 0·1	2. 36. 46·2	+ 0·2
	43	9·0	6·7	− 2·0	46·6	+ 0·6
	203*	9·5	11·1	+ 1·0	45·3	− 0·7
	208*	9·0	11·3	+ 1·2	45·8	− 0·2

1061 on 61. 10 seconds have been added to the R.A.
1093 on 59. Bad bisection. Half-weight.
1124 on 59. Altered 10″ in N.P.D.
1170 on 27. 10 seconds have been taken off the R.A.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1194	59	10·0	8. 8. 23·9	−0·6	2. 50. 7·3	+0·9
	64	9·5	24·5	−0·1	3·9	−2·5
	200*	9·5	24·6	−0·1	7·6	+1·2
	208*	9·0	25·9	+0·9	6·9	+0·5
1195	208*	10·5	8. 9. 3·4	−0·1	2. 42. 46·0	+0·5
	246*	10·5	3·7	+0·1	44·2	−1·3
	589*	10·5	3·2	−0·2	46·5	+1·0
	591*	10·5	3·7	+0·1	45·4	−0·1
1202	60	10·5	8. 11. 40·3	−1·0	3. 57. 52·6	+1·7
	61	10·5	41·9	+0·6	52·6	+1·7
	212*	10·5	41·4	+0·1	47·4	−3·5
	229*	10·5	41·5	+0·2	50·8	−0·1
1206	43	10·0	8. 12. 48·1	−0·5	2. 38. 24·1	−0·1
	53	10·0	48·3	−0·3	25·0	+0·8
	60	9·5	48·4	−0·3	24·8	+0·6
	64	9·5	50·2	+1·0	22·0	−2·2
	200*	10·0	48·4	−0·3	24·6	+0·4
	208*	9·5	49·6	+0·6	24·5	+0·3
1210	60	10·0	8. 13. 46·6	−1·2	3. 53. 10·8	−0·9
	61	10·0	48·5	+0·7	10·9	−0·8
	200*	9·5	47·7	−0·1	13·1	+1·4
	212*	10·0	48·4	+0·6	11·9	+0·2
1214	39	10·5	8. 15. 35·1	0·0	1. 44. 31·7	+1·4
	48	10·5	35·3	+0·1	29·9	−0·4
	208*	10·5	35·3	+0·1	29·7	−0·6
	233*	10·5	34·4	−0·3	30·0	−0·3
1223	233*	11·0	8. 21. 16·5	+0·5	1. 38. 47·1	−0·9
	235*	10·5	15·6	+0·1	45·4	−2·6
	589*	11·0	15·4	0·0	50·6	+2·6
	591*	10·5	13·5	−0·8	48·9	+0·9
1230	55	10·0	8. 22. 55·0	0·0	3. 49. 28·0	+0·3
	58	10·5	54·0	−1·0	26·4	−1·3
	200*	10·0	55·3	+0·3	28·8	+1·1
	212*	10·0	55·5	+0·5	27·4	−0·3
1234	55	10·0	8. 25. 9·1	+0·9	3. 1. 45·4	−1·7
	58	10·5	5·2	−2·2	48·3	+1·2
	200*	10·5	9·6	+1·3	48·0	+0·9
	227*	10·5	8·1	+0·1	46·5	−0·6
1236	23	10·5	8. 25. 46·0	+0·8	2. 40. 35·9	+2·2
	55	10·0	46·0	+0·8	32·2	−1·5
	58	10·0	42·5	−1·7	32·5	−1·2
	200*	10·5	44·2	−0·5	33·9	+0·2
	202*	10·0	45·7	+0·6	33·8	+0·1
1241	39	10·5	8. 27. 30·9	+0·7	2. 5. 14·3	−1·6
	53	10·5	26·9	−1·5	17·0	+1·1
	204*	10·0	30·9	+0·7	16·4	+0·5
	208*	10·0	30·1	+0·2	15·9	0·0
1245	55	10·5	8. 28. 15·7	−0·7	2. 34. 46·5	−0·4
	61	10·5	17·8	+0·7	46·4	−0·5
	200*	10·5	15·2	−1·0	45·9	−1·0
	202*	10·0	18·0	+0·9	48·8	+1·9
1248	228*	10·5	8. 29. 49·3	+0·9	3. 25. 11·9	+0·4
	246*	10·5	48·5	+0·2	10·9	−0·6
	247*	10·5	47·3	−0·9	11·7	+0·2
1255	39	10·5	8. 33. 4·1	+0·2	1. 58. 24·8	+1·5
	53	10·5	2·8	−0·5	23·3	0·0
	204*	10·5	4·7	+0·5	22·4	−0·9
	208*	10·5	3·1	−0·3	22·6	−0·7
1259	55	8·5	8. 33. 41·0	+0·1	3. 53. 7·9	−1·2
	58	9·0	41·1	+0·2	9·4	+0·3
	200*	9·0	41·0	+0·1	9·4	+0·3
	223*	9·0	40·6	−0·3	9·6	+0·5
1263	55	10·0	8. 35. 51·1	+0·4	3. 17. 54·7	−1·5
	58	10·0	49·9	−0·6	55·9	−0·3
	200*	10·0	51·1	+0·4	57·4	+1·2
	208*	10·0	50·4	−0·2	56·7	+0·5
1267	228*	10·5	8. 36. 47·1	0·0	3. 30. 55·9	+1·4
	246*	10·5	47·3	+0·2	54·4	−0·1
	247*	10·5	47·0	−0·1	53·1	−1·4
1273	58	10·5	8. 40. 12·6	+0·4	3. 2. 51·2	+0·5
	95	10·5	11·4	−0·6	49·6	−1·1
	200*	10·5	12·5	+0·3	51·4	+0·7
	208*	10·5	12·0	−0·1	50·5	−0·2
1277	55	10·0	8. 42. 12·0	0·0	3. 50. 20·4	−1·2
	61	10·0	12·7	+0·7	21·2	−0·4
	200*	10·0	12·3	+0·3	22·4	+0·8
	208*	10·0	11·0	−1·0	22·2	+0·6
1280	57	10·0	8. 43. 12·9	+0·1	2. 43. 13·9	−1·6
	58	10·5	11·2	−1·1	15·3	−0·2
	227*	10·0	13·4	+0·4	16·5	+1·0
	228*	10·0	13·8	+0·7	16·2	+0·7
1282	55	10·0	8. 43. 50·9	+0·4	3. 53. 49·7	−0·5
	64	10·0	49·9	−0·6	49·8	−0·4
	200*	10·5	50·6	+0·1	51·3	+1·1
	208*	10·5	50·4	−0·1	50·0	−0·2
1287	23	10·5	8. 44. 35·4	−0·1	1. 4. 37·4	+0·9
	43	10·5	39·7	+1·1	35·8	−0·7
	53	10·5	30·3	−1·6	36·2	−0·3
	201*	10·5	37·8	+0·5	36·2	−0·3
	204*	10·5	36·1	+0·1	37·0	+0·5
1290	55	9·5	8. 45. 13·6	+0·2	3. 31. 13·7	−0·5
	61	9·5	13·1	−0·3	13·2	−1·0
	223*	10·0	14·3	+0·8	14·7	+0·5
	227*	9·5	12·6	−0·6	15·1	+0·9
1292	61	10·5	8. 45. 34·5	−0·2	3. 24. 32·8	+0·9
	64	10·5	32·5	−2·0	31·2	−0·7
	201*	10·5	35·9	+1·1	30·8	−1·1
	228*	10·5	35·8	+1·0	32·7	+0·8
1302	58	10·5	8. 49. 21·6	+0·6	4. 0. 39·2	+2·0
	61	10·5	20·0	−1·1	34·1	−3·1
	200*	10·5	22·6	+1·7	37·9	+0·7
	201*	10·5	19·8	−1·3	37·5	+0·3
1317	55	10·5	8. 54. 58·9	−1·0	2. 48. 47·6	+0·6
	57	10·5	60·1	−0·1	46·0	−1·0
	200*	10·5	60·9	+0·5	46·1	−0·9
	228*	10·5	60·8	+0·4	48·3	+1·3
1323	55	9·5	8. 58. 54·8	−0·1	3. 30. 44·0	−1·0
	58	9·0	54·4	−0·5	45·6	+0·6
	61	10·0	55·5	+0·6	43·9	−1·1
	200*	9·5	54·6	−0·3	44·7	−0·3
	227*	10·0	55·3	+0·4	46·7	+1·7
1329	55	10·5	9. 0. 40·0	−1·9	3. 37. 39·6	−0·2
	60	10·5	41·8	−0·2	40·7	+0·9
	227*	10·5	43·0	+0·9	39·3	−0·5
	228*	10·5	43·1	+1·0	39·7	−0·1
1330	23	9·0	9. 0. 48·5	+0·4	2. 30. 52·3	−0·4
	43	9·5	45·4	−1·7	51·7	−1·0
	53	9·0	47·6	−0·2	51·9	−0·8
	57	8·5	48·8	+0·6	53·5	+0·8
	233*	9·0	49·7	+1·2	53·3	+0·6
	236*	9·0	47·4	−0·3	53·3	+0·6
1336	23	10·0	9. 2. 17·5	0·0	1. 35. 43·4	+0·7
	39	10·0	17·4	0·0	42·6	−0·1
	48	10·0	18·1	+0·2	42·0	−0·7
	236*	10·0	15·7	−0·7	42·8	+0·1
	240*	10·0	19·0	+0·6	42·6	−0·1
1340	55	10·5	9. 3. 36·8	−0·2	3. 56. 21·8	+0·3
	60	10·5	34·1	−3·0	22·3	+0·8
	228*	10·5	38·4	+1·4	19·2	−2·3
	233*	10·5	38·5	+1·5	22·5	+1·0
1344	39	10·5	9. 4. 49·0	0·0	1. 40. 55·5	+0·6
	48	10·5	48·0	−0·5	54·4	−0·5
	236*	10·5	46·8	−1·0	54·8	−0·1
	240*	10·5	52·7	+1·6	54·9	0·0
1359	48	10·5	9. 9. 12·0	−0·3	1. 23. 36·9	−0·1
	53	10·5	10·4	−0·8	36·3	−0·7
	236*	10·5	12·0	−0·3	40·3	+3·3
	240*	10·5	16·5	+1·4	36·2	−0·8
1361	32	9·0	9. 9. 46·2	+0·8	2. 14. 27·9	−1·1
	39	9·0	44·6	−0·1	28·5	−0·5
	228*	9·0	44·9	+0·1	29·2	+0·2
	236*	8·5	45·5	+0·4	29·7	+0·7
	246*	9·0	42·8	−1·2	29·8	+0·8
1376	55	9·0	9. 14. 29·0	−0·1	2. 54. 21·4	+0·1
	57	9·5	28·8	−0·1	20·4	−0·9
	58	9·0	30·3	+0·6	21·2	−0·1
	200*	9·5	28·8	−0·2	22·8	+1·5
	212*	9·5	28·7	−0·2	20·9	−0·4
1388	32	10·0	9. 19. 48·3	−0·6	2. 3. 29·5	−0·7
	39	10·0	48·9	−0·3	30·2	0·0
	228*	10·0	48·3	−0·6	30·2	0·0
	233*	10·5	50·9	+0·8	30·7	+0·5
	240*	9·5	51·2	+0·9	30·5	+0·3
1398	39	10·0	9. 22. 59·1	+0·3	2. 10. 53·9	+1·1
	48	10·0	57·3	−0·7	50·4	−2·4
	228*	10·0	57·8	−0·5	52·4	−0·4
	233*	10·0	59·7	+0·6	54·3	+1·5
	240*	9·5	58·9	+0·2	52·8	0·0
1405	57	10·5	9. 23. 55·3	+1·4	3. 12. 28·3	−2·4
	59	10·5	52·8	−0·7	32·0	+1·3
	212*	10·5	52·4	−1·0	31·2	+0·5
	227*	10·5	53·9	+0·3	31·4	+0·7

1248. A still fainter star follows.
1359 on 236*. Bad bisection. Half-weight.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1413	48	10·0	9. 27. 14·3	−0·4	1. 16. 7·6	−1·4
	89	10·5	15·1	−0·1	7·0	−2·0
	228*	10·5	14·2	−0·4	10·4	+1·4
	233*	10·5	18·3	+0·9	11·1	+2·1
1418	39	8·5	9. 29. 53·0	−0·4	2. 44. 22·3	−0·4
	43	8·5	51·7	−1·3	22·8	+0·1
	48	8·5	54·1	+0·4	23·0	+0·3
	57	8·0	53·6	+0·1	22·7	0·0
	59	9·0	53·3	−0·1	23·4	+0·7
	200*	8·5	53·2	−0·2	23·5	+0·8
	228*	8·0	52·0	−1·1	22·2	−0·5
	233*	9·0	56·1	+1·9	22·2	−0·5
	240*	9·0	55·3	+1·3	22·5	−0·2
	241*	8·5	52·6	−0·6	21·9	−0·8
1420	61	10·5	9. 30. 42·2	—	3. 54. 9·7	—
1429	59	10·5	9. 33. 58·1	+0·2	3. 38. 25·9	−1·0
	60	10·5	57·2	−0·7	26·0	−0·9
	227*	10·5	58·7	+0·8	28·2	+1·3
	228*	10·5	57·4	−0·5	27·3	+0·4
1449	60	10·5	9. 43. 49·6	−0·4	3. 21. 30·9	+0·6
	61	10·5	49·7	−0·4	29·1	−1·2
	223*	10·5	52·3	+1·9	29·2	−1·1
	227*	10·5	48·9	−1·1	32·1	+1·8
1456	48	10·5	9. 45. 50·7	+0·2	1. 13. 8·8	−1·5
	95	10·5	46·3	−1·2	10·0	−0·3
	208*	10·5	52·4	+0·7	10·4	+0·1
	240*	10·5	51·4	+0·4	11·9	+1·6
1458	59	9·0	9. 47. 25·7	0·0	3. 27. 57·5	−0·9
	60	9·0	24·9	−0·7	57·6	−0·8
	200*	9·0	26·4	+0·6	59·5	+1·1
	227*	9·0	25·7	0·0	59·1	+0·7
1463	60	10·5	9. 48. 1·5	−1·6	3. 54. 46·0	+0·7
	61	10·5	2·4	−0·7	42·5	−2·8
	227*	10·5	4·4	+1·3	46·1	+0·8
	228*	10·5	4·1	+1·0	46·7	+1·4
1465	57	10·5	9. 48. 55·4	−1·3	3. 35. 49·7	−2·7
	59	10·5	57·0	+0·2	52·9	+0·5
	200*	10·5	58·6	+1·7	53·5	+1·1
	227*	10·5	56·2	−0·6	53·5	+1·1
1472	59	9·5	9. 52. 38·8	−1·1	3. 51. 15·3	+0·2
	60	10·0	39·5	−0·4	14·9	−0·2
	200*	9·5	40·6	+0·7	14·9	−0·2
	223*	9·0	40·5	+0·6	15·1	0·0
1473	57	10·5	9. 52. 42·0	−0·6	3. 17. 33·6	+4·2
	61	10·5	42·0	−0·6	28·3	−1·1
	227*	10·5	43·3	+0·5	27·2	−2·2
	228*	10·5	43·3	+0·5	28·4	−1·0
1477	61	10·5	9. 54. 10·5	−0·2	3. 12. 55·3	−2·0
	64	10·5	10·9	+0·2	55·4	−1·9
	227*	10·5	10·4	−0·3	60·2	+2·9
	228*	10·5	10·8	+0·1	58·3	+1·0
1478	59	9·5	9. 54. 43·3	+0·1	4. 0. 16·0	0·0
	60	9·5	42·1	−1·2	15·5	−0·5
	200*	9·5	43·2	0·0	17·7	+1·7
	223*	9·0	44·2	+1·1	14·9	−1·1
1487	23	9·5	9. 58. 12·5	+0·1	2. 28. 9·5	+0·7
	53	10·0	12·1	−0·1	7·6	−1·2
	239*	9·5	12·5	+0·1	7·9	−0·9
	241*	10·0	11·5	−0·5	8·5	−0·3
	246*	9·5	12·7	+0·3	10·3	+1·5
1490	48	8·5	9. 59. 33·9	+0·4	1. 23. 57·9	−0·1
	55	9·0	31·5	−0·5	58·2	+0·2
	239*	9·0	32·5	−0·1	58·7	+0·7
	241*	9·5	33·9	+0·4	56·8	−1·2
	246*	9·5	32·3	−0·2	58·6	+0·6
1493	57	10·5	10. 0. 26·4	+0·3	2. 51. 26·0	0·0
	60	10·5	23·6	−1·8	25·9	−0·1
	246*	10·5	27·6	+1·2	25·5	−0·5
	247*	10·5	26·5	+0·4	26·6	+0·6
1494	57	9·5	10. 0. 33·7	−0·5	3. 45. 1·8	−0·3
	59	9·5	33·8	−0·4	0·9	−1·2
	200*	9·0	34·3	+0·1	4·1	+2·0
	223*	9·0	35·1	+0·9	1·4	−0·7
1501	246*	11·0	10. 3. 9·8	—	2. 53. 15·7	—
1504	59	10·5	10. 5. 32·3	−1·0	3. 12. 26·2	−1·4
	61	10·5	31·6	−1·6	27·4	−0·2
	223*	10·5	35·0	+1·3	28·1	+0·5
	228*	10·5	35·0	+1·3	28·7	+1·1
1511	60	10·5	10. 6. 23·9	−0·4	3. 59. 31·4	−1·9
	61	10·5	22·9	−1·5	33·5	+0·2
	241*	10·5	25·5	+1·3	32·3	−1·0
	247*	10·0	24·8	+0·5	35·8	+2·5

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	′ ″	″
1517	57	9·5	10. 7. 59·8	+0·5	2. 54. 40·8	+0·4
	60	10·0	56·6	−1·9	39·9	−0·5
	246*	10·0	60·2	+0·8	40·3	−0·1
	247*	10·0	59·6	+0·4	40·4	0·0
1519	59	9·5	10. 8. 29·6	−1·1	3. 12. 19·7	0·0
	61	9·5	29·8	−0·9	18·8	−0·9
	223*	9·0	32·4	+1·3	20·3	+0·6
	228*	9·0	31·8	+0·8	20·1	+0·4
1531	55	10·5	10. 10. 39·4	+0·1	1. 57. 51·2	+1·5
	88	10·5	37·7	−0·8	48·5	−1·2
	239*	10·5	39·6	+0·2	49·3	−0·4
	241*	10·0	40·4	+0·6	49·6	−0·1
1533	60	9·0	10. 11. 30·9	+0·2	4. 1. 50·5	−1·7
	61	9·5	30·1	−0·6	51·6	−0·6
	228*	9·0	30·6	−0·1	52·0	−0·2
	241*	9·0	30·7	0·0	53·5	+1·3
	247*	9·5	31·1	+0·4	53·4	+1·2
1535	57	10·0	10. 11. 37·6	+0·6	2. 55. 54·0	+0·2
	59	10·5	35·9	−0·7	54·6	+0·8
	246*	10·5	36·0	−0·6	52·9	−0·9
	247*	10·5	37·7	+0·7	53·8	0·0
1543	60	10·5	10. 14. 51·7	−1·3	4. 7. 19·8	−1·9
	61	10·5	53·1	+0·2	23·6	+1·9
	64	10·5	54·9	+2·1	23·8	+2·1
	228*	10·5	51·6	−1·4	20·5	−1·2
	247*	10·5	53·4	+0·5	20·9	−0·8
1548	55	10·0	10. 16. 31·7	−0·1	2. 36. 34·7	+0·6
	57	10·0	31·6	−0·1	33·8	−0·3
	88	10·0	32·0	+0·1	33·4	−0·7
	90	10·0	31·2	−0·4	34·4	+0·3
	236*	10·0	30·7	−0·8	34·3	+0·2
	239*	10·5	33·8	+1·4	34·1	0·0
1549	55	11·0	10. 16. 36·1	+0·1	1. 3. 39·7	0·0
	88	10·5	33·3	−0·7	39·4	−0·3
	233*	10·5	34·4	−0·4	38·5	−1·2
	236*	10·5	39·2	+0·9	41·0	+1·3
1568	59	10·5	10. 24. 22·6	−0·6	3. 27. 53·4	+0·7
	60	10·0	22·1	−1·1	53·0	+0·3
	240*	10·5	24·5	+1·1	51·8	−0·9
	241*	10·0	23·8	+0·5	52·7	0·0
1585	59	9·0	10. 33. 21·3	+0·2	3. 52. 23·8	+1·0
	60	9·0	19·6	−1·5	21·2	−1·6
	241*	9·0	21·9	+0·8	22·7	−0·1
	246*	9·0	21·5	+0·4	23·5	+0·7
1588	240*	11·0	10. 34. 54·6	+0·4	3. 29. 50·4	−0·2
	246*	10·5	53·7	−0·5	50·8	+0·2
1590	59	10·5	10. 35. 25·9	−0·8	3. 29. 35·5	−1·2
	60	10·5	24·0	−2·6	35·4	−1·3
	240*	10·0	30·5	+3·4	38·3	+1·6
	246*	10·0	26·6	−0·2	37·7	+1·0
1592	53	10·5	10. 36. 2·1	−0·8	1. 11. 22·2	−0·3
	88	10·0	2·8	−0·6	23·7	+1·2
	236*	10·5	5·2	+0·2	22·6	+0·1
	239*	10·5	8·2	+1·1	21·6	−0·9
1615	60	9·5	10. 45. 52·3	+0·1	4. 0. 17·0	−1·7
	61	9·5	52·2	0·0	20·0	+1·3
	240*	9·5	53·2	+1·1	19·4	+0·7
	241*	9·5	51·0	−1·3	18·2	−0·5
1617	55	10·5	10. 46. 38·6	0·0	2. 26. 18·6	+0·4
	88	10·5	36·6	−1·3	19·3	+1·1
	236*	10·5	38·8	+0·1	16·7	−1·5
	239*	10·5	40·2	+1·0	18·0	−0·2
1618	60	10·5	10. 46. 47·2	−1·9	2. 33. 44·3	−0·4
	87	10·5	48·3	−1·2	43·5	−1·2
	246*	10·5	53·6	+2·3	43·9	−0·8
	247*	10·5	51·4	+0·9	47·1	+2·4
1620	59	10·5	10. 46. 54·2	−0·9	3. 32. 47·6	+0·6
	64	10·0	53·2	−1·9	45·2	−1·8
	240*	10·0	57·9	+2·5	46·1	−0·9
	246*	9·5	55·5	+0·3	49·1	+2·1
1627	61	10·5	10. 48. 3·3	−1·6	3. 47. 30·2	+0·8
	87	10·5	4·4	−0·5	29·2	−0·2
	241*	10·5	5·1	+0·2	29·4	0·0
	248*	10·5	9·0	+4·1	28·8	−0·6
1633	59	9·5	10. 50. 23·0	−0·4	3. 40. 32·3	−0·1
	61	9·5	24·1	+0·7	33·1	+0·7
	240*	9·5	23·4	0·0	32·0	−0·4
	241*	9·5	23·1	−0·3	32·2	−0·2
1634	59	10·0	10. 51. 16·2	+0·3	3. 19. 36·1	−0·9
	61	10·5	13·3	−2·2	37·8	+0·8
	248*	10·0	18·6	+2·3	37·9	+0·9
	250*	10·0	15·4	−0·4	36·3	−0·7

1420 and 1501. Too faint to be observed again.
1473 on 57. N.P.D. is correctly reduced.
1519. Double. The brighter star observed.
1627 on 248*. Faint. Half-weight to R.A.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
1636	60	10·0	10. 51. 45·7	−1·7	2. 35. 43·9	−2·2
	64	10·5	42·5	−4·7	46·5	+0·4
	87	10·0	49·5	+1·9	47·5	+1·4
	246*	10·0	51·2	+3·4	46·2	+0·1
	247*	10·0	48·5	+0·9	46·2	+0·1
1638	60	10·5	10. 52. 33·0	−2·5	2. 40. 33·3	+1·3
	87	10·5	36·5	−0·1	31·6	−0·4
	246*	10·5	38·5	+1·3	32·7	+0·7
	247*	10·5	38·4	+1·3	30·5	−1·5
1645	59	8·0	10. 56. 10·3	+0·6	3. 34. 30·1	−0·5
	60	8·0	8·5	−1·1	30·3	−0·3
	87	8·5	9·6	−0·1	31·0	+0·4
	246*	8·0	10·0	+0·3	31·6	+1·0
	248*	9·0	9·9	+0·2	30·0	−0·6
1667	60	10·5	11. 6. 3·6	0·0	3. 13. 31·9	−0·8
	61	10·5	1·6	−1·7	34·0	+1·3
	247*	10·5	3·1	−0·4	33·2	+0·5
	248*	10·5	6·1	+2·1	31·5	−1·2
1669	59	9·5	11. 6. 53·9	−0·7	3. 9. 34·6	−2·1
	60	9·5	54·0	−0·7	35·6	−1·1
	246*	10·0	55·4	+0·5	38·7	+2·0
	247*	9·5	56·0	+1·0	38·0	+1·3
1673	85	10·5	11. 8. 15·5	−2·9	3. 18. 28·5	−1·1
	87	10·5	20·8	+1·7	29·7	+0·1
	246*	10·5	18·9	+0·1	29·8	+0·2
	247*	10·5	20·1	+1·1	30·3	+0·7
1676	95	10·0	11. 8. 46·3	−1·9	1. 19. 24·5	−1·2
	124	10·0	51·8	0·0	25·9	+0·2
	240*	10·0	56·8	+1·8	26·1	+0·4
	241*	10·5	51·8	0·0	26·2	+0·5
1677	61	10·5	11. 9. 28·3	+0·7	2. 57. 32·9	−0·7
	85	10·5	26·1	−1·0	31·7	−1·9
	247*	10·5	27·0	−0·3	34·8	+1·2
	248*	10·5	28·3	+0·9	35·1	+1·5
1683	61	10·0	11. 11. 55·9	+0·2	3. 33. 58·3	−1·0
	85	10·0	54·1	−1·5	57·1	−2·2
	246*	10·0	55·6	−0·1	60·6	+1·3
	248*	10·0	57·0	+1·2	61·2	+1·9
1686	88	10·5	11. 13. 10·7	−1·4	2. 22. 48·0	+0·4
	240*	11·0	14·7	+1·1	45·5	−2·1
	262*	10·5	12·0	−0·6	48·7	+1·1
	263*	11·0	14·4	+0·9	48·2	+0·6
1687	88	10·5	11. 13. 49·7	+0·9	1. 51. 3·1	+0·5
	95	10·5	44·8	−1·5	1·9	−0·7
	253*	10·5	49·3	+0·7	2·8	+0·2
1692	61	10·5	11. 17. 8·6	−0·9	3. 35. 25·4	−1·1
	85	10·5	9·1	−0·5	24·8	−1·7
	246*	10·5	9·8	+0·2	27·3	+0·8
	248*	10·5	10·9	+1·2	28·6	+2·1
1694	59	10·0	11. 18. 5·5	−0·4	3. 43. 1·9	−0·9
	64	10·0	5·9	0·0	2·6	−0·2
	247*	10·0	6·0	+0·1	3·8	+1·0
	248*	10·5	6·2	+0·3	2·9	+1·1
1699	61	10·5	11. 19. 48·1	0·0	3. 34. 51·7	−1·4
	85	10·5	47·0	−1·0	52·4	−0·7
	246*	10·5	49·5	+1·3	54·8	+1·7
	248*	10·5	47·7	−0·4	53·5	+0·4
1701	59	10·0	11. 20. 21·0	−1·3	3. 41. 6·9	+0·6
	64	10·0	21·5	−0·8	4·8	−1·5
	247*	9·5	22·2	−0·1	8·4	+2·1
	248*	10·0	24·5	+2·1	5·1	−1·2
1705	88	10·0	11. 21. 5·4	+0·4	1. 30. 42·2	+1·3
	95	10·0	4·5	0·0	40·2	−0·7
	253*	10·0	3·8	−0·2	40·8	−0·1
	262*	10·5	3·9	−0·2	40·3	−0·6
1712	61	9·0	11. 23. 44·3	−0·7	3. 35. 0·7	−0·7
	85	8·0	43·7	−1·2	1·2	−0·2
	246*	8·5	46·1	+1·0	1·9	+0·5
	247*	8·0	45·4	+0·4	1·8	+0·4
	248*	9·0	45·6	+0·6	1·4	0·0
1737	88	10·5	11. 31. 26·8	−0·1	1. 24. 48·9	+0·5
	95	10·5	24·4	−1·0	46·0	−2·4
	263*	10·5	28·1	+0·4	49·9	+1·5
	339*	10·5	29·2	+0·8	48·7	+0·3
1738	123	10·0	11. 31. 39·2	−0·3	2. 40. 29·5	−3·4
	124	10·5	39·9	+0·2	33·9	+1·0
	247*	10·5	38·7	−0·6	34·5	+1·6
	248*	10·5	40·5	+0·6	33·7	+0·8
1745	123	9·5	11. 34. 38·4	−0·5	3. 50. 37·8	+1·8
	124	9·5	39·2	+0·3	34·5	−1·5
	129	9·5	39·1	+0·2	36·2	+0·2
	247*	9·5	38·7	−0·2	36·0	0·0
	248*	9·5	39·3	+0·4	35·5	−0·5
1748	87	10·0	11. 35. 17·5	−0·9	1. 1. 45·5	+0·4
	88	10·0	19·7	−0·3	45·7	+0·6
	89	10·0	21·0	+0·1	47·5	+2·4
	241*	10·0	26·0	+1·4	44·8	−0·3
	267*	10·5	19·0	−0·5	42·0	−3·1
1749	123	9·0	11. 36. 24·7	−0·9	3. 39. 44·3	−0·9
	124	9·0	24·8	−0·8	43·9	−1·3
	129	9·0	26·2	+0·6	44·8	−0·4
	247*	9·0	24·9	−0·7	46·7	+1·5
	248*	9·0	27·5	+1·8	46·3	+1·1
1756	124	9·5	11. 40. 52·6	−0·5	3. 31. 22·1	−1·4
	129	9·5	52·6	−0·5	23·9	+0·4
	247*	9·5	52·6	−0·5	24·9	+1·4
	248*	9·5	54·6	+1·4	23·0	−0·5
1762	123	9·0	11. 44. 13·2	−0·2	2. 58. 21·0	−0·6
	124	9·0	13·1	−0·3	20·6	−1·0
	129	9·0	12·4	−0·9	22·3	+0·7
	247*	9·0	13·8	+0·2	23·1	+1·5
	248*	9·5	14·8	+1·0	21·2	−0·4
1767	88	10·5	11. 45. 34·7	+0·2	1. 21. 19·6	−0·5
	95	10·5	31·6	−0·8	21·8	+1·7
	263*	10·5	36·3	+0·8	19·5	−0·6
	339*	10·5	33·5	−0·2	19·5	−0·6
1776	123	10·5	11. 50. 32·8	−0·2	3. 27. 40·8	+0·6
	124	10·5	32·7	−0·3	39·9	−0·3
	247*	10·5	32·5	−0·5	41·9	+1·7
	248*	10·5	34·0	+0·9	38·1	−2·1
1777	88	10·0	11. 51. 17·3	+1·0	2. 11. 48·1	−1·1
	95	10·0	13·7	−1·0	49·2	0·0
	263*	10·0	16·7	+0·7	49·5	+0·3
	267*	10·0	14·2	−0·7	50·1	+0·9
1778	88	9·0	11. 51. 36·8	+0·3	2. 11. 52·5	−0·2
	95	9·0	36·6	+0·2	51·8	−0·9
	263*	9·0	36·7	+0·3	53·4	+0·7
	267*	9·0	34·6	−0·9	52·9	+0·2
1787	124	10·0	11. 35. 52·6	+0·1	2. 49. 25·9	−1·6
	129	10·0	52·5	0·0	27·7	+0·2
	247*	10·0	51·7	−0·6	28·7	+1·2
	248*	10·0	53·2	+0·5	27·8	+0·3
1789	123	10·5	11. 54. 50·4	−0·6	3. 21. 17·4	−0·4
	247*	10·5	50·1	−0·9	19·1	+1·3
	248*	10·5	52·7	+1·4	17·2	−0·6
	339*	10·5	51·2	+0·1	17·3	−0·5
1795	124	10·0	11. 58. 1·6	−0·7	2. 55. 45·0	−1·9
	129	10·0	2·2	−0·2	46·9	0·0
	247*	10·0	4·3	+1·4	48·9	+2·0
	340*	10·5	1·9	−0·5	46·8	−0·1
1812	124	10·0	12. 4. 61·3	+0·5	3. 29. 14·9	−1·0
	129	10·0	59·9	−0·8	16·3	+0·4
	340*	9·5	61·2	+0·4	16·1	+0·2
	361*	10·0	60·8	0·0	16·3	+0·4
1813	123	10·0	12. 5. 19·7	+0·8	3. 50. 43·7	−1·1
	124	10·0	17·6	−1·3	42·9	−1·9
	247*	10·0	18·9	0·0	46·5	+1·7
	360*	10·5	19·5	+0·6	46·0	+1·2
1814	124	10·5	12. 5. 21·0	+0·7	3. 37. 56·2	−1·0
	129	10·5	19·7	−0·6	55·8	−1·4
	359*	10·5	20·7	+0·4	59·3	+2·1
	361*	10·5	19·9	−0·4	57·4	+0·2
1816	90	8·5	12. 6. 37·2	−0·4	2. 15. 39·8	−0·1
	134	9·0	36·6	−0·8	40·0	+0·1
	263*	9·0	37·7	−0·1	39·7	−0·2
	267*	9·0	40·0	+1·3	40·0	+0·1
1820	123	10·5	12. 7. 17·0	−0·2	2. 59. 18·9	−0·4
	124	10·5	15·3	−1·5	17·3	−2·0
	247*	10·0	16·6	−0·5	20·4	+1·1
	340*	10·5	19·7	+2·0	20·7	+1·4
1827	90	10·0	12. 10. 56·4	+0·1	2. 26. 20·9	−1·6
	135	10·5	56·1	−0·1	24·1	+1·6
	263*	10·5	55·6	−0·4	23·9	+1·4
	339*	10·5	57·2	+0·6	21·0	−1·5
1830	90	6·0	12. 12. 33·2	−0·2	2. 45. 27·6	−0·9
	134	—	33·0	−0·4	29·3	+0·8
	136	6·0	34·7	+0·9	28·5	0·0
	253*	6·0	32·8	−0·5	28·7	+0·2
	263*	6·0	33·9	+0·3	28·4	−0·1
1837	90	10·0	12. 15. 28·1	−1·0	1. 24. 56·5	+0·5
	134	10·0	28·0	−1·0	56·3	+0·3
	248*	10·0	32·0	+0·5	55·3	−0·7
	253*	10·5	34·8	+1·2	55·9	−0·1

1748 on 267*. Enfeebled by fog.
1820. N. p. of 2 stars. The second too faint for observation.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
1839	123	10·5	12. 15. 37·4	+0·2	2. 38. 54·9	−2·5	1954	137	10·5	13. 4. 39·6	+0·9	2. 23. 32·7	−0·3
	247*	10·0	36·7	−0·3	58·5	+1·1		138	10·0	38·8	+0·4	33·0	0·0
	340*	10·0	37·4	+0·2	57·1	−0·3		374*	10·5	37·2	−0·6	28·9	−4·1
	361*	10·0	36·7	−0·3	59·0	+1·6		669*	10·5	37·1	−0·7	35·3	+2·3
1849	123	10·0	12. 19. 17·6	−0·2	3. 53. 18·5	−1·1	1961	123	10·0	13. 8. 55·5	+0·3	2. 59. 10·7	−0·1
	124	10·0	17·3	−0·5	18·1	−1·5		129	10·0	55·3	+0·2	10·3	−0·5
	263*	9·5	18·0	+0·2	20·8	+1·2		337*	10·0	54·0	−0·9	10·7	−0·1
	340*	9·5	18·3	+0·5	21·1	+1·5		349*	10·0	55·4	+0·2	11·3	+0·5
1855	90	10·0	12. 21. 54·2	−0·6	1. 20. 12·1	−1·1	1973	124	10·5	13. 12. 9·9	−1·5	3. 30. 48·9	−1·9
	134	10·5	51·6	−1·5	12·7	−0·5		340*	10·5	13·3	+1·7	52·7	+1·9
	246*	10·5	61·5	+2·0	14·1	+0·9		349*	10·5	11·9	+0·4	50·7	−0·1
	248*	10·0	55·7	0·0	13·9	+0·7		656*	10·0	10·8	−0·6	51·0	+0·2
1862	95	10·5	12. 24. 47·3	−0·6	2. 5. 60·0	+0·1	1980	124	10·0	13. 14. 33·5	−0·7	4. 3. 0·6	−2·3
	135	10·0	47·9	−0·3	59·1	−0·8		129	10·0	33·8	−0·4	0·3	−2·6
	253*	10·5	48·7	+0·2	60·5	+0·6		335*	10·0	34·9	+0·7	3·7	+0·8
	262*	10·0	49·6	+0·7	59·8	−0·1		339*	10·0	33·6	−0·6	3·8	+0·9
1863	95	10·5	12. 24. 51·1	−0·3	2. 10. 38·2	−0·9		340*	10·0	35·0	+0·8	6·3	+3·4
	135	10·0	51·9	+0·2	39·7	+0·6	2003	337*	10·5	13. 21. 11·6	+0·4	3. 49. 54·2	−2·1
	253*	10·5	52·0	+0·2	39·1	0·0		340*	10·5	11·7	+0·5	58·4	+2·1
	262*	10·0	51·3	−0·2	39·5	+0·4		349*	10·5	10·6	−0·6	55·8	−0·5
1865	90	10·5	12. 26. 49·6	−1·3	2. 25. 51·6	−1·2		656*	10·5	10·7	−0·5	56·8	+0·5
	134	10·5	50·6	−0·7	53·8	+1·0	2007	123	10·5	13. 22. 12·9	+1·8	2. 49. 16·1	+3·7
	263*	10·5	53·3	+1·0	50·9	−1·9		124	10·5	9·1	−1·0	11·9	−0·5
	361*	10·5	53·2	+1·0	54·8	+2·0		349*	10·5	10·2	−0·2	10·7	−1·7
1875	123	8·5	12. 34. 43·2	−0·2	3. 28. 12·2	+0·4		656*	10·5	9·6	−0·7	10·7	−1·7
	124	9·0	42·5	−0·8	11·1	−0·7	2015	123	9·5	13. 24. 35·8	−0·2	2. 55. 21·3	−0·8
	129	9·0	42·7	−0·6	11·9	+0·1		124	10·0	35·8	−0·2	20·5	−1·6
	340*	8·5	44·8	+1·3	12·3	+0·5		129	9·5	36·5	+0·4	21·8	−0·3
	349*	8·5	43·8	+0·4	11·5	−0·3		262*	9·5	36·1	+0·1	23·6	+1·5
1884	123	10·5	12. 38. 55·8	−0·5	4. 5. 20·1	+0·1		337*	9·5	35·7	−0·2	23·4	+1·3
	124	10·5	55·4	−1·0	18·5	−1·5	2027	123	10·0	13. 29. 58·3	+0·9	3. 28. 26·4	−2·2
	360*	10·5	56·7	+0·4	20·7	+0·7		124	10·0	56·6	−0·6	27·1	−1·5
	361*	10·5	57·1	+0·9	20·6	+0·6		263*	10·0	57·3	0·0	30·0	+1·4
1885	123	10·5	12. 38. 60·0	+0·2	3. 49. 10·1	−0·4		337*	9·5	56·8	−0·5	30·9	+2·3
	124	10·0	58·8	−1·0	9·6	−0·9	2031	123	10·0	13. 30. 28·4	−0·1	2. 41. 6·6	−0·3
	263*	10·0	59·1	−0·7	10·5	0·0		124	9·5	29·1	+0·4	6·1	−0·8
	340*	10·5	61·3	+1·5	11·7	+1·2		129	9·5	29·1	+0·4	7·0	+0·1
1888	134	10·0	12. 40. 32·5	−0·7	1. 54. 1·0	−0·8		262*	9·5	28·1	−0·4	7·2	+0·3
	135	10·0	35·4	+0·7	1·1	−0·7		263*	9·0	28·2	−0·3	7·7	+0·8
	253*	10·0	34·0	0·0	2·5	+0·7	2038	124	10·5	13. 33. 2·3	−0·1	3. 56. 0·1	−2·3
	262*	10·0	34·0	0·0	2·6	+0·8		150	10·5	2·1	−0·3	3·4	+1·0
1896	134	10·0	12. 42. 43·7	−0·8	2. 14. 57·6	−1·5		263*	10·5	2·8	+0·4	3·0	+0·6
	135	10·0	45·4	+0·2	59·3	+0·2		337*	10·5	2·2	−0·2	3·1	+0·7
	262*	10·0	45·8	+0·4	60·3	+1·2	2045	123	9·5	13. 35. 44·3	+1·0	3. 59. 5·9	−0·4
	263*	10·0	45·6	+0·3	59·0	−0·1		124	9·0	42·9	−0·5	5·6	−0·7
1898	123	10·0	12. 43. 34·5	−0·2	2. 43. 12·0	+0·1		129	9·5	43·4	0·0	5·5	−0·8
	124	10·0	33·2	−1·1	10·1	−1·8		263*	9·0	43·5	+0·1	7·4	+1·1
	129	10·5	36·1	+0·9	11·4	−0·5		337*	9·0	43·0	−0·4	6·6	+0·3
	337*	10·0	34·1	−0·5	11·8	−0·1		450	9·0	43·2	−0·2	6·5	+0·2
	340*	10·0	35·9	+0·8	14·3	+2·4	2048	135	9·5	13. 36. 41·8	−0·8	1. 42. 22·6	−0·3
1905	123	10·0	12. 45. 30·9	−0·6	3. 45. 35·0	−1·3		136	9·0	43·0	−0·3	22·0	−0·9
	124	9·5	30·2	−1·3	36·0	−0·3		137	9·0	44·4	+0·4	23·5	+0·6
	339*	10·0	31·8	+0·3	37·0	+0·7		340*	9·5	42·6	−0·4	23·7	+0·8
	340*	10·0	33·1	+1·5	37·2	+0·9		359*	10·0	46·1	+1·1	22·9	0·0
1922	134	10·0	12. 52. 48·3	−0·5	1. 14. 5·6	−1·0	2058	123	10·5	13. 40. 47·3	+0·1	2. 45. 4·6	−0·3
	135	9·5	52·3	+0·8	5·8	−0·8		150	10·0	46·3	−0·6	4·5	−0·4
	262*	10·0	49·4	−0·2	7·9	+1·3		335*	10·0	48·4	+0·9	5·4	+0·5
	263*	10·0	49·6	−0·1	7·2	+0·6		337*	10·0	46·5	−0·4	5·1	+0·2
1929	123	10·5	12. 54. 27·9	−2·3	3. 11. 28·9	+1·1	2063	124	10·5	13. 42. 21·1	−1·1	3. 37. 25·9	−1·8
	124	10·5	35·6	+4·2	25·7	−2·1		150	10·5	22·4	+0·2	26·7	−1·0
	337*	10·5	27·0	−3·0	29·1	+1·3		337*	10·5	22·7	+0·5	28·8	+1·1
	340*	11·0	31·8	+1·0	27·6	−0·2		669*	10·5	22·4	+0·2	29·4	+1·7
1931	123	10·0	12. 55. 53·7	+0·8	4. 5. 9·3	+0·7	2068	135	10·0	13. 43. 29·0	−0·4	1. 9. 14·4	+0·8
	124	10·0	51·0	−2·2	4·9	−3·7		138	10·0	31·3	+0·3	11·0	−2·6
	129	10·0	53·0	0·0	7·0	−1·6		359*	10·0	28·8	−0·5	14·4	+0·8
	340*	10·0	53·3	+0·3	11·1	+2·5		374*	10·0	31·8	+0·4	15·1	+1·5
	349*	10·0	53·9	+1·0	10·6	+2·0		375*	10·0	30·9	+0·2	13·2	−0·4
1932	124	10·5	12. 56. 11·8	−2·4	4. 8. 45·3	−1·2	2069	135	10·5	13. 43. 39·2	0·0	1. 11. 16·5	+1·2
	340*	11·0	15·3	+1·4	44·0	−2·5		138	10·5	40·3	+0·3	12·2	−3·1
	359*	11·0	14·9	+1·0	50·2	+3·7		669*	11·0	39·5	+0·1	16·8	+1·5
1943	135	9·0	13. 1. 22·0	−0·6	2. 33. 28·0	−0·3		692*	11·0	37·8	−0·4	15·7	+0·4
	136	9·5	23·9	+0·7	28·2	−0·1	2074	150	10·0	13. 45. 31·4	−0·1	3. 11. 47·9	−0·8
	263*	10·0	22·7	−0·1	28·0	−0·3		520	10·5	31·8	+0·3	48·9	+0·2
	359*	10·0	23·0	+0·1	29·1	+0·8		656*	10·5	29·2	−1·9	48·9	+0·2
1944	123	9·0	13. 1. 46·3	0·0	3. 20. 3·9	−0·9		676*	10·0	33·6	+1·8	49·1	+0·4
	129	9·0	46·8	+0·4	3·9	−0·9	2075	123	10·0	13. 45. 40·2	+0·2	2. 56. 25·0	+1·4
	340*	9·0	46·2	−0·1	6·5	+1·7		124	10·0	39·5	−0·4	22·8	−0·8
	349*	9·0	46·0	−0·3	4·8	+0·1		391*	10·0	40·3	+0·2	23·1	−0·5
1951	134	10·0	13. 3. 52·5	−0·2	0. 51. 18·1	−0·4	2079	123	10·0	13. 46. 25·6	+1·5	4. 0. 46·7	+0·7
	137	9·5	55·2	+0·4	18·3	−0·2		129	10·5	23·4	−0·9	44·4	−1·6
	263*	9·5	52·2	−0·3	18·5	0·0		391*	9·5	23·7	−0·5	46·8	+0·8
	350*	9·0	54·2	+0·2	19·1	+0·6							

1931. N.P.D.s discordant. The bisection on 124 seems bad.
2003. N. p. of 2 stars. The other fainter and 20″ distant.
2007. N. f. of 2 stars. The other 30″ distant, and too faint for observation.
2063. N. f. of 2 stars.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2082	124	10·5	13. 49. 17·8	−1·8	2. 55. 14·2	−1·3
	150	10·5	20·4	+0·2	15·7	+0·2
	391*	10·5	20·4	+0·2	15·9	+0·4
	683*	10·5	21·6	+1·2	16·3	+0·8
2084	124	10·5	13. 50. 0·9	−1·3	3. 23. 41·0	−1·0
	516	10·5	2·9	+0·4	42·3	+0·3
	692*	10·5	5·0	+2·3	42·6	+0·6
	693*	10·5	0·8	−1·4	41·9	−0·1
2089	123	10·5	13. 53. 36·2	—	3. 38. 50·8	—
2097	135	10·0	13. 56. 43·7	−0·2	2. 6. 55·5	−0·6
	136	10·5	45·2	+0·7	56·4	+0·3
	359*	10·0	45·8	+1·0	56·6	+0·5
	375*	10·0	41·4	−1·4	55·8	−0·3
2100	123	10·5	13. 57. 50·0	−0·6	3. 34. 30·6	−1·2
	146	10·5	48·2	−2·3	29·8	−2·0
	669*	10·5	49·6	−0·9	34·5	+2·7
	692*	10·5	54·6	+3·8	32·1	+0·3
2102	124	10·5	13. 58. 8·1	+0·5	2. 59. 48·7	−1·7
	150	10·5	5·5	−1·6	50·5	+0·1
	391*	10·5	8·9	+1·1	51·9	+1·5
	669*	10·5	7·5	0·0	50·5	+0·1
2106	124	10·0	13. 58. 25·9	−0·6	2. 47. 19·5	−1·3
	150	10·0	25·0	−1·2	19·9	−0·9
	379*	10·0	27·6	+0·7	21·5	+0·7
	520	10·0	28·7	+1·5	22·2	+1·4
	524	10·0	26·4	−0·2	21·0	+0·2
2109	123	10·0	13. 59. 36·4	−0·1	3. 45. 51·1	−2·0
	160	—	37·1	+0·6	52·3	−0·8
	383*	9·5	36·2	−0·3	55·1	+2·0
	391*	9·5	36·1	−0·4	53·9	+0·8
2112	124	9·5	14. 0. 47·0	−0·2	4. 5. 29·4	−1·8
	160	—	47·6	+0·4	30·8	−0·4
	383*	9·5	46·6	−0·6	32·7	+1·5
	391*	9·5	47·4	+0·2	31·9	+0·7
2116	150	10·0	14. 2. 44·2	+1·0	2. 41. 10·0	−1·2
	160	10·0	42·9	+0·1	11·0	−0·2
	383*	10·0	40·9	−1·3	11·5	+0·3
	391*	10·0	43·3	+0·4	12·4	+1·2
2117	134	10·0	14. 3. 59·9	−0·3	2. 17. 52·1	0·0
	135	10·0	60·8	+0·2	51·4	−0·7
	339*	10·0	60·9	+0·3	51·9	−0·2
	359*	10·0	60·0	−0·2	53·1	+1·0
2121	135	9·5	14. 4. 55·2	−0·4	1. 59. 19·2	−0·5
	136	10·0	54·5	−0·7	19·0	−0·7
	349*	9·0	57·7	+0·9	20·8	+1·1
	351*	9·5	58·4	+1·3	20·1	+0·4
	375*	9·5	53·6	−1·2	19·6	−0·1
2122	123	8·0	14. 5. 5·5	−0·7	3. 32. 50·4	−2·4
	124	8·0	6·6	+0·3	52·6	−0·2
	337*	8·0	6·7	+0·4	54·0	+1·2
	375*	8·0	6·4	+0·1	54·1	+1·3
2124	124	10·5	14. 7. 9·5	+0·9	3. 22. 56·0	+0·4
	150	10·5	6·1	−2·1	53·5	−2·1
	374*	10·5	9·0	+0·4	58·0	+2·4
	375*	10·5	9·4	+0·8	54·8	−0·8
2129	135	10·5	14. 8. 45·1	−0·2	2. 27. 19·8	−0·4
	136	10·5	44·6	−0·5	22·3	+2·1
	339*	10·5	45·3	−0·1	20·5	+0·3
	351*	10·5	46·4	+0·6	18·3	−1·9
2130	123	10·5	14. 8. 53·1	−0·9	3. 53. 7·7	−0·9
	150	10·5	53·0	−1·0	7·1	−1·5
	391*	10·5	54·4	+0·4	10·3	+1·7
	516	10·5	55·3	+1·3	9·4	+0·8
2138	123	10·5	14. 12. 7·1	−1·1	3. 34. 8·7	+0·7
	124	10·5	8·2	−0·1	6·7	−1·3
	391*	10·5	9·2	+0·8	10·1	+2·1
	516	10·5	8·8	+0·5	6·7	−1·3
	520	10·5	8·2	−0·1	8·0	0·0
2145	123	10·0	14. 15. 32·4	−2·9	2. 48. 56·9	−2·3
	144	10·0	36·8	+0·4	59·8	+0·6
	378*	10·0	37·0	+0·5	58·3	−0·9
	379*	10·0	37·5	+0·9	60·0	+0·8
	383*	10·0	37·8	+1·1	61·2	+2·0
2148	135	10·5	14. 18. 5·4	−0·9	1. 23. 35·0	0·0
	163	10·5	12·0	+1·5	33·4	−1·6
	339*	10·5	4·9	−1·1	34·7	−0·3
	351*	10·5	9·7	+0·6	36·8	+1·8
2160	135	10·5	14. 22. 47·1	−1·0	1. 32. 51·2	+0·4
	162	10·5	51·3	+0·6	50·8	0·0
	339*	10·5	48·8	−0·4	49·9	−0·9
	351*	10·5	51·7	+0·8	51·1	+0·3
2161	146	10·5	14. 24. 4·4	−0·3	3. 44. 50·4	−0·3
	150	10·5	4·8	+0·1	48·6	−2·1
	391*	11·0	4·1	−0·6	53·8	+3·1
	516	11·0	5·6	+0·9	50·1	−0·6
2164	162	10·5	14. 24. 48·9	+0·6	2. 4. 13·9	−2·2
	339*	10·5	48·5	+0·4	16·3	+0·2
	359*	10·5	48·4	+0·3	16·7	+0·6
	391*	10·5	45·3	−1·4	17·5	+1·4
2166	136	10·5	14. 25. 37·4	−1·2	2. 26. 45·1	−1·9
	351*	10·5	41·2	+1·3	49·1	+2·1
	374*	10·5	40·7	+1·0	47·2	+0·2
	381*	10·5	37·3	−1·2	46·3	−0·7
2172	146	10·5	14. 28. 49·0	+0·3	3. 41. 49·7	+0·1
	150	10·5	46·9	−1·7	49·0	−0·6
	516	11·0	49·7	+1·0	48·6	−1·0
	669*	10·5	49·2	+0·5	50·9	+1·3
2173	135	10·5	14. 28. 59·8	−0·3	1. 23. 33·4	+0·4
	163	10·5	61·6	+0·3	32·4	−0·6
	339*	10·5	61·6	+0·3	32·3	−0·7
	391*	10·5	59·8	−0·3	33·9	+0·9
2174	134	10·0	14. 29. 21·4	+0·1	1. 27. 15·4	−1·6
	135	10·0	20·6	−0·2	16·0	−1·0
	339*	10·0	21·4	+0·1	18·3	+1·3
	379*	10·0	20·9	−0·1	18·1	+1·1
2175	124	10·5	14. 29. 31·3	+0·1	2. 40. 23·2	−0·4
	146	10·5	30·4	−0·5	22·2	−1·4
	516	11·0	32·4	+0·9	24·2	+0·6
	524	10·5	30·2	−0·6	24·7	+1·1
2178	138	10·5	14. 30. 25·9	−0·7	2. 15. 3·3	+0·3
	162	10·0	27·7	+0·4	2·2	−0·8
	381*	10·0	27·7	+0·4	3·6	+0·6
2183	124	10·0	14. 32. 30·9	−0·6	4. 1. 56·6	−1·4
	150	10·0	28·4	−3·3	58·4	+0·4
	470	10·0	32·7	+1·2	57·7	−0·3
	471	10·0	33·8	+2·5	59·8	+1·8
	516	10·0	31·8	+0·3	58·6	+0·6
	524	10·0	31·2	−0·3	56·9	−1·1
2184	134	10·0	14. 32. 34·2	−0·5	1. 55. 39·5	−1·1
	162	9·5	35·4	+0·1	38·1	−2·5
	374*	10·0	37·7	+1·3	43·6	+3·0
	379*	10·0	33·4	−0·9	41·2	+0·6
2198	124	9·5	14. 36. 57·0	−0·1	3. 45. 9·6	−0·9
	150	9·5	55·4	−1·7	9·2	−1·3
	160	—	58·3	+1·2	10·4	−0·1
	378*	10·0	57·2	+0·1	12·1	+1·6
	381*	9·5	57·8	+0·7	11·2	+0·6
2204	138	10·5	14. 38. 36·4	−1·3	2. 4. 14·8	−2·0
	162	10·5	38·8	0·0	15·9	−0·9
	359*	10·5	39·2	+0·2	18·9	+2·1
	374*	10·5	40·8	+1·1	17·7	+0·9
2205	135	10·5	14. 39. 44·3	−1·5	1. 23. 39·1	−1·3
	163	10·5	54·0	+2·1	42·8	+2·4
	381*	11·0	50·3	+0·7	37·9	−2·5
	391*	11·0	44·5	−1·4	41·7	+1·3
2217	124	10·5	14. 44. 15·4	−0·5	2. 38. 57·0	−0·2
	167	10·5	16·6	+0·3	55·9	−1·3
	391*	10·5	15·1	−0·7	58·1	+0·9
	516	10·5	17·4	+0·9	57·6	+0·4
2218	150	9·0	14. 44. 37·6	−0·6	4. 5. 48·5	−1·6
	160	9·0	39·6	+1·5	50·6	+0·5
	338*	9·0	38·7	+0·5	51·3	+1·2
	374*	9·5	36·9	−1·4	49·9	−0·2
2221	162	10·5	14. 45. 13·2	+0·9	4. 0. 11·5	−2·6
	167	10·5	12·2	−0·1	14·8	+0·7
	374*	10·5	11·5	−0·8	14·0	−0·1
	391*	10·5	12·1	−0·2	16·0	+1·9
2225	124	10·5	14. 47. 7·2	−1·8	2. 56. 24·3	−2·2
	163	10·5	10·0	+0·4	27·0	+0·5
	391*	10·5	11·7	+1·7	28·6	+2·1
	516	11·0	8·7	−0·6	26·0	−0·5
2231	150	10·5	14. 48. 31·5	−2·0	3. 35. 56·8	−0·6
	160	10·0	34·3	+0·7	58·2	+0·8
	338*	10·0	34·0	+0·4	57·3	−0·1
	378*	10·0	34·6	+0·9	57·4	0·0
2246	135	10·5	14. 52. 33·2	0·0	1. 12. 18·0	−1·9
	138	10·5	34·1	+0·3	20·8	+0·9
	359*	10·5	35·4	+0·7	22·0	+2·1
	374*	10·5	30·1	−1·0	18·7	−1·2
2250	163	10·5	14. 55. 20·2	+0·7	3. 48. 15·0	−1·3
	391*	10·5	18·4	−1·1	16·5	+0·2
	526	10·5	19·4	−0·1	16·5	+0·2
	535	10·5	20·0	+0·5	17·1	+0·8

2205 on 381*. 20 seconds have been taken off the observed R.A.
2225 on 516. R.A. doubtful by 2 seconds. (10·7 seconds?) Half-weight.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2251	150	10·5	14. 55. 28·0	−2·9	3. 32. 14·6	−2·5
	162	10·5	32·6	+1·4	17·5	+0·4
	338*	10·5	31·6	+0·5	16·9	−0·2
	381*	10·5	32·2	+1·0	19·3	+2·2
2253	124	10·0	14. 56. 61·1	−0·3	3. 14. 4·5	−0·5
	150	10·0	57·9	−3·1	3·9	−1·1
	338*	10·5	62·2	+0·6	6·4	+1·4
	374*	10·0	64·7	+2·7	5·3	+0·3
2254	163	10·5	14. 57. 6·2	+2·0	3. 50. 26·8	+0·1
	391*	10·5	3·1	−1·1	28·0	+1·3
	525	11·0	4·7	+0·5	26·9	+0·2
	526	10·5	2·7	−1·5	25·2	−1·5
2258	124	8·0	14. 58. 29·3	+0·2	3. 27. 17·3	−0·1
	150	8·5	27·0	−1·9	16·6	−0·8
	162	8·0	29·6	+0·5	16·0	−1·4
	338*	8·0	29·5	+0·4	18·2	+0·8
	359*	8·5	30·3	+1·1	19·1	+1·7
2259	162	10·5	14. 58. 45·2	−0·4	3. 33. 34·8	+0·8
	167	10·5	46·0	+0·4	32·8	−1·2
	381*	10·5	46·0	+0·4	34·7	+0·7
	391*	10·5	45·1	−0·5	33·6	−0·4
2260	25*	10·5	14. 59. 29·6	+0·3	2. 5. 7·5	+0·8
	135	10·0	27·6	−0·8	5·3	−1·4
	138	10·0	29·4	+0·2	6·6	−0·1
	340*	10·0	29·7	+0·3	7·4	+0·7
2269	124	10·5	15. 6. 16·5	+0·6	3. 59. 32·2	+1·5
	150	10·5	13·0	−3·0	26·6	−4·1
	338*	11·0	18·1	+2·3	31·9	+1·2
	361*	10·5	16·0	+0·1	32·2	+1·5
2275	135	10·5	15. 8. 36·8	−0·8	2. 13. 32·5	−0·6
	138	10·5	38·5	+0·2	32·8	−0·3
	334*	10·5	38·1	0·0	33·3	+0·2
	359*	10·5	38·8	+0·4	33·6	+0·5
2290	124	9·0	15. 14. 35·7	+0·7	3. 56. 19·9	+0·8
	150	9·0	34·3	−0·7	18·2	−0·9
	338*	9·0	35·0	0·0	18·9	−0·2
	383*	9·0	34·8	−0·2	19·2	+0·1
2297	32*	10·5	15. 17. 20·8	−0·7	1. 40. 34·8	−1·5
	138	10·5	22·7	+0·1	37·6	+1·3
	160	10·5	22·8	+0·2	34·8	−1·5
	359*	10·5	23·1	+0·3	38·1	+1·8
2301	124	10·0	15. 18. 47·0	+1·5	3. 32. 35·5	+0·5
	150	10·0	43·2	−2·0	34·6	−0·4
	338*	10·0	45·6	+0·2	35·2	+0·2
	361*	9·5	45·7	+0·3	34·7	−0·3
2307	150	10·5	15. 22. 23·7	−1·4	3. 57. 55·8	−0·5
	160	10·5	25·3	+0·3	56·0	−0·3
	338*	10·5	25·2	+0·2	56·8	+0·5
	374*	10·5	25·9	+0·9	56·5	+0·2
2321	162	10·5	15. 28. 32·5	+0·8	3. 55. 38·6	+0·8
	167	10·5	31·7	0·0	37·0	−0·8
	338*	10·5	31·7	0·0	36·4	−1·4
	391*	10·5	30·9	−0·8	40·0	+1·2
2330	22*	10·0	15. 30. 17·5	−0·5	2. 24. 26·6	−1·7
	135	10·5	18·1	−0·1	26·8	−1·5
	168	10·5	20·2	+1·2	28·4	+0·1
	374*	10·5	17·2	−0·7	31·4	+3·1
2333	20*	10·0	15. 31. 12·0	+0·4	1. 26. 27·1	−1·8
	25*	9·0	11·3	+0·1	29·3	+0·4
	32*	9·0	11·0	0·0	30·6	+1·7
	137	9·0	10·0	−0·4	28·3	−0·6
	168	10·0	10·6	−0·2	29·0	+0·4
2334	162	10·5	15. 31. 47·6	−0·7	3. 57. 10·6	−0·2
	167	10·5	48·7	+0·4	9·5	−1·3
	338*	10·5	48·8	+0·5	11·2	+0·4
	383*	10·0	48·0	−0·3	11·9	+1·1
2335	150	10·5	15. 32. 26·3	−0·6	3. 33. 35·8	−2·0
	162	10·0	26·5	−0·4	36·2	−1·6
	379*	10·5	27·1	+0·2	39·0	+1·2
	391*	10·0	27·5	+0·6	40·2	+2·4
2339	168	10·5	15. 34. 12·8	−1·2	2. 14. 43·0	+1·8
	351*	10·5	12·9	−1·1	41·2	0·0
	379*	10·5	15·8	+0·6	41·7	+0·5
	525	10·5	17·2	+1·4	40·0	−1·2
	526	10·5	15·3	+0·3	40·2	−1·0
2345	135	10·5	15. 36. 33·1	+0·2	2. 23. 38·0	−3·3
	391*	11·0	30·8	−1·2	43·8	+2·5
	526	11·0	32·1	−0·4	40·2	−1·1
	534	10·5	34·8	+1·3	43·1	+1·8

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2351	22*	10·0	15. 38. 35·4	−1·1	1. 41. 52·6	−0·2
	25*	10·5	37·9	0·0	52·1	−0·7
	29*	10·5	36·9	−0·4	53·1	+0·3
	137	10·0	38·8	+0·4	53·2	+0·4
	168	10·5	40·0	+1·0	53·2	+0·4
2356	150	10·0	15. 40. 45·5	−0·1	3. 47. 26·0	+0·4
	162	10·0	45·7	+0·1	24·0	−1·6
	361*	10·0	46·7	+1·1	24·4	−1·2
	391*	10·0	44·5	−1·1	28·1	+2·5
2363	22*	9·0	15. 43. 11·3	+0·3	2. 28. 24·7	+0·3
	29*	9·0	10·2	−0·4	25·6	+1·2
	134	9·0	10·8	0·0	24·7	+0·3
	135	9·0	11·0	+0·1	22·7	−1·7
	137	9·0	10·9	+0·1	24·4	+0·3
2367	150	10·5	15. 45. 4·0	−2·0	3. 0. 19·1	−2·0
	162	10·0	5·6	−0·7	22·4	+1·3
	361*	10·0	7·1	+0·5	22·2	+1·1
	374*	10·0	9·1	+2·0	20·8	−0·3
2368	150	10·0	15. 45. 13·3	−2·8	3. 58. 16·2	−0·1
	162	10·0	15·9	−0·1	14·8	−1·5
	374*	10·0	18·9	+3·0	16·5	+0·2
	379*	10·0	15·8	−0·2	17·8	+1·5
2369	22*	10·5	15. 45. 16·0	0·0	0. 57. 9·6	−0·2
	25*	10·5	17·9	+0·5	9·5	−0·3
	137	10·5	14·1	−0·5	9·8	0·0
	168	10·5	16·0	0·0	10·4	+0·6
2394	167	10·5	15. 54. 58·1	+0·5	3. 9. 39·6	−0·3
	338*	10·5	56·7	−0·7	39·6	−0·3
	349*	10·5	57·6	+0·1	42·0	+2·1
	361*	10·5	57·4	−0·1	38·3	−1·6
2398	22*	10·0	15. 57. 15·9	+0·7	2. 3. 53·0	−1·1
	27*	10·0	15·0	+0·2	55·7	+1·6
	134	10·0	15·0	+0·2	54·4	+0·3
	136	10·0	13·2	−0·8	53·3	−0·8
	170	10·0	14·0	−0·3	54·3	+0·2
2400	123	9·5	15. 57. 53·3	−0·5	2. 56. 21·7	−0·2
	150	10·0	52·8	−0·9	20·9	−1·0
	170	9·5	54·7	+0·5	22·6	+0·7
	342*	9·5	54·8	+0·6	21·3	−0·6
	349*	10·0	54·2	+0·2	22·9	+1·0
2402	150	10·5	15. 58. 16·5	−0·9	3. 14. 55·6	−1·8
	162	10·5	17·0	−0·5	56·6	−0·8
	338*	10·5	18·7	+0·9	58·3	+0·9
	349*	10·5	18·0	+0·3	59·1	+1·7
2425	123	10·0	16. 7. 33·4	−0·9	3. 34. 29·4	−0·2
	150	10·5	33·7	−0·7	27·5	−2·1
	349*	10·0	34·9	+0·5	30·8	+1·2
	351*	10·0	35·4	+0·9	30·5	+0·9
2431	123	10·5	16. 8. 50·2	−0·9	3. 19. 46·1	−1·0
	167	10·5	50·8	−0·3	44·7	−2·4
	349*	10·5	51·8	+0·5	47·8	+0·7
	351*	10·5	51·9	+0·6	49·7	+2·6
2441	22*	10·0	16. 11. 28·5	+0·7	1. 58. 15·9	+0·4
	25*	10·5	26·4	−0·4	16·3	+0·8
	138	10·0	25·1	−1·0	14·9	−0·6
	168	10·5	26·3	−0·4	14·3	−1·2
	334*	10·5	29·2	+1·1	16·2	+0·7
2444	123	10·5	16. 13. 43·4	−1·1	3. 56. 22·6	+0·7
	349*	10·5	44·9	+0·4	21·1	−0·8
	351*	10·5	44·9	+0·4	23·9	+2·0
	361*	11·0	44·6	+0·1	20·0	−1·9
2449	25*	10·5	16. 18. 12·0	+0·6	1. 51. 16·6	+1·2
	135	10·5	10·3	−0·2	14·5	−0·9
	138	10·5	10·6	−0·1	17·5	+2·1
	334*	10·5	10·1	−0·3	13·0	−2·4
2454	123	10·5	16. 20. 6·2	+0·2	3. 14. 16·3	−2·6
	170	10·5	5·6	−0·3	18·9	0·0
	349*	10·5	6·2	+0·2	18·8	−0·1
	351*	10·5	5·8	−0·2	21·7	+2·8
2456	123	10·5	16. 21. 21·3	−0·5	3. 47. 42·4	−2·9
	351*	10·5	22·1	+0·3	46·1	+0·8
	383*	10·5	22·5	+0·7	48·2	+2·9
	391*	10·5	21·2	−0·6	44·5	−0·8
2459	123	10·5	16. 22. 33·4	−0·2	3. 43. 48·3	−3·0
	351*	10·5	32·7	−0·9	53·6	+2·3
	383*	10·5	33·8	+0·2	50·0	−1·3
	526	10·5	34·3	+0·7	53·3	+2·0
2463	167	10·0	16. 24. 10·2	+0·6	3. 36. 0·6	−0·4
	168	10·0	8·7	−0·9	0·1	−0·9
	349*	10·0	7·9	−1·6	0·8	−0·2
	361*	10·5	11·4	+1·7	2·6	+1·6

2258 on 162. Suspected to be Double. It is Σ 1915.
2459 on 383*. 10″ have been taken off the observed N.P.D. The result would be little altered by rejecting the observation.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2469	167	10·5	16. 25. 39·5	−0·6	2. 59. 16·9	−0·9
	170	10·5	41·0	+0·5	19·1	+1·3
	349*	10·5	40·4	+0·1	17·7	−0·1
	383*	10·5	40·3	0·0	17·6	−0·2
2471	22*	9·5	16. 26. 40·2	+0·2	2. 8. 47·1	−0·6
	25*	9·5	41·5	+1·0	49·0	+1·3
	27*	9·5	38·4	−0·8	47·6	−0·1
	135	10·0	38·6	−0·7	47·5	−0·2
	168	10·0	40·5	+0·4	47·1	−0·6
2476	123	10·5	16. 28. 41·5	−0·3	3. 13. 30·5	−1·1
	170	10·5	41·7	−0·1	31·6	0·0
	391*	10·5	40·1	−1·4	32·2	+0·6
	526	11·0	43·7	+1·6	32·0	+0·4
2480	25*	10·0	16. 29. 30·3	+0·2	2. 17. 28·2	−0·6
	32*	10·5	28·0	−1·1	30·4	+1·6
	137	10·5	30·6	+0·4	27·4	−1·4
	168	10·5	30·8	+0·5	29·1	+0·3
2484	123	9·5	16. 31. 19·8	−0·2	3. 50. 38·4	−1·9
	351*	9·5	20·0	0·0	40·7	+0·4
	383*	9·0	20·2	+0·2	41·4	+1·1
	391*	9·5	19·9	−0·1	40·5	+0·2
2494	32*	9·0	16. 36. 36·9	+0·4	1. 32. 32·2	+0·8
	135	9·5	34·4	−0·6	30·0	−1·4
	137	9·0	35·4	−0·2	30·8	−0·6
	168	9·5	36·2	+0·1	30·7	−0·7
	349*	9·0	37·0	+0·4	33·3	+1·9
2497	123	10·5	16. 37. 59·8	−1·3	3. 33. 59·5	−0·8
	150	10·5	60·2	−0·9	56·6	−3·7
	526	11·0	60·7	−0·5	65·9	+5·6
	528	11·0	64·1	+2·7	61·9	+1·6
2517	123	10·0	16. 47. 50·6	−0·4	3. 29. 4·0	+0·7
	150	9·5	50·1	−0·8	1·8	−1·5
	170	9·0	51·4	+0·4	3·0	−0·3
	334*	9·5	51·7	+0·6	4·4	+1·1
	351*	9·0	51·3	+0·3	3·4	+0·1
2521	342*	11·0	16. 49. 15·4	−0·2	2. 15. 12·1	+0·3
	528	10·5	18·8	+1·8	11·2	−0·6
	534	11·0	13·1	−1·6	12·2	+0·4
2523	123	10·5	16. 51. 23·7	−1·8	3. 40. 20·1	+1·1
	351*	10·5	25·8	+0·2	21·9	+2·9
	391*	11·0	25·0	−0·6	16·7	−2·3
	528	11·0	27·9	+2·2	17·3	−1·7
2527	32*	10·5	16. 52. 45·6	−0·8	2. 9. 34·2	0·0
	135	10·5	47·4	+0·2	32·3	−1·9
	168	10·5	47·1	0·0	34·3	+0·1
	342*	10·5	48·3	+0·7	35·8	+1·6
2530	150	10·0	16. 54. 7·9	−0·6	2. 49. 23·2	−0·3
	162	10·0	8·4	−0·2	23·0	−0·5
	374*	10·5	10·1	+1·0	22·6	−0·9
	391*	10·0	8·3	−0·3	25·3	+1·8
2532	201	10·5	16. 54. 54·4	+0·2	2. 4. 43·8	−0·8
	342*	10·5	54·2	+0·1	44·7	+0·1
	351*	10·5	55·5	+0·8	43·1	−1·5
	391*	10·5	52·3	−1·0	46·8	+2·2
2533	32*	10·0	16. 55. 7·2	−0·4	1. 28. 4·3	−2·2
	167	10·0	7·3	−0·4	6·1	−0·4
	201	10·0	10·6	+0·9	6·9	+0·4
	349*	10·0	8·0	−0·1	8·6	+2·1
2538	201	10·5	16. 58. 3·6	+0·9	1. 44. 10·2	−0·6
	349*	10·5	1·3	−0·1	12·2	+1·4
	351*	10·5	0·6	−0·5	11·2	+0·4
	391*	10·5	1·0	−0·3	9·6	−1·2
2541	162	10·0	16. 58. 27·1	−0·8	3. 23. 6·7	−0·6
	170	10·0	26·6	−1·2	7·1	−0·2
	534	10·0	28·0	0·0	8·2	+0·9
	535	10·0	30·1	+1·9	7·2	−0·1
2544	123	10·5	16. 58. 46·4	−1·9	3. 43. 15·5	−1·3
	162	10·5	47·7	−0·7	17·5	+0·7
	528	10·5	49·4	+1·0	17·3	+0·5
	535	10·5	50·2	+1·7	17·0	+0·2
2546	150	10·5	16. 59. 4·1	−0·8	4. 3. 7·1	−1·2
	170	10·5	4·6	−0·3	8·5	+0·2
	528	10·5	7·1	+2·3	8·7	+0·4
	534	11·0	3·6	−1·4	9·0	+0·7
2548	150	9·0	17. 0. 26·4	−1·7	4. 7. 7·4	−1·7
	170	9·5	28·6	+0·6	9·4	+0·3
	379*	9·5	29·0	+1·1	10·0	+0·9
	383*	9·5	28·1	+0·1	9·5	+0·4
2551	201	10·5	17. 1. 13·8	−0·9	1. 51. 27·2	−1·2
	360*	10·5	15·5	−0·1	27·2	−1·2
	391*	11·0	17·0	+0·6	31·5	+3·1
	528	10·5	15·9	+0·1	28·1	−0·3
	534	11·0	16·1	+0·2	27·9	−0·5

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2562	162	10·5	17. 6. 42·3	−0·4	3. 57. 38·6	−2·0
	379*	10·5	43·7	+1·0	41·4	+0·8
	381*	10·5	41·4	−1·3	42·3	+1·7
	528	10·5	43·3	+0·6	39·9	−0·7
2563	168	10·5	17. 6. 50·9	−1·3	2. 24. 22·6	+1·8
	334*	11·0	53·9	+0·6	18·9	−1·9
	351*	10·5	54·4	+0·9	20·7	−0·1
	534	11·0	52·5	−0·3	21·1	+0·3
2564	168	10·0	17. 7. 0·4	−0·3	2. 30. 14·0	−2·1
	203	10·0	0·0	−0·6	16·4	+0·3
	334*	10·5	2·0	+0·7	15·8	−0·3
	351*	10·0	1·3	+0·3	18·0	+1·9
2572	150	10·5	17. 10. 28·1	−1·4	3. 52. 40·5	−3·5
	360*	10·5	29·2	−0·3	45·0	+1·0
	383*	10·5	30·6	+1·1	45·9	+1·9
	534	10·5	30·0	+0·5	44·5	+0·5
2576	351*	10·5	17. 11. 31·3	+0·6	3. 11. 48·1	+1·8
	391*	10·5	30·8	+0·2	46·1	−0·2
	528	10·5	28·2	−2·0	46·8	+0·5
	535	10·5	32·1	+1·3	44·1	−2·2
2579	170	10·0	17. 13. 19·0	−0·5	3. 19. 34·6	−0·5
	351*	10·0	19·1	−0·4	36·1	+1·0
	383*	10·0	19·0	−0·5	36·5	+1·4
	528	10·0	21·1	+1·3	33·2	−1·9
2583	360*	10·5	17. 14. 22·8	+1·9	2. 57. 31·1	+0·1
	391*	10·5	21·5	+0·9	32·6	+1·6
	534	10·5	18·6	−1·3	30·0	−1·0
	535	10·5	18·3	−1·6	30·3	−0·7
2584	32*	10·0	17. 14. 36·2	+0·3	1. 39. 42·5	−0·4
	43*	10·5	33·2	−1·0	44·0	+1·1
	138	10·5	33·9	−0·7	43·6	+0·7
	201	10·5	38·2	+1·2	41·5	−1·4
2585	150	10·5	17. 14. 56·6	−1·7	3. 47. 38·9	−2·3
	360*	10·5	58·1	−0·2	41·9	+0·7
	528	10·5	57·9	−0·4	42·7	+1·5
	534	10·5	60·6	+2·3	41·3	+0·1
2590	32*	10·0	17. 17. 61·7	+1·2	2. 15. 2·0	+0·7
	53*	10·0	60·0	+0·2	0·9	−0·4
	138	10·0	55·6	−2·4	1·2	−0·1
	201	10·0	61·6	+1·1	1·0	−0·3
2596	150	10·0	17. 20. 13·0	−0·7	3. 44. 57·7	+0·4
	162	10·0	12·2	−1·5	55·4	−1·9
	334*	10·0	14·9	+1·2	58·1	+0·8
	338*	10·0	14·8	+1·1	58·0	+0·7
2600	32*	10·0	17. 21. 54·4	−0·4	2. 25. 55·0	−2·0
	53*	10·0	54·6	−0·3	57·1	+0·1
	201	10·0	54·5	−0·4	58·3	+1·3
	203	10·0	56·9	+1·1	57·6	+0·6
2605	150	10·5	17. 24. 38·0	−2·0	3. 50. 7·1	+2·0
	170	10·5	40·2	+0·2	5·0	−0·1
	338*	11·0	41·7	+1·7	2·7	−2·4
	349*	10·5	40·2	+0·2	5·5	+0·4
2606	150	9·0	17. 24. 47·6	−1·0	3. 44. 19·0	−1·2
	162	9·0	49·3	+0·7	18·7	−1·5
	334*	9·0	48·7	+0·1	21·3	+1·1
	349*	9·0	48·8	+0·2	21·6	+1·4
2612	150	10·0	17. 26. 35·3	−1·1	3. 52. 31·2	+0·2
	170	10·0	36·6	+0·2	29·8	−1·2
	334*	10·0	35·9	−0·5	31·4	+0·4
	338*	10·5	37·8	+1·4	31·5	+0·5
2639	23*	9·0	17. 35. 14·2	+1·0	1. 46. 60·5	+0·6
	25*	9·0	13·6	+0·4	59·5	−0·4
	58*	9·0	12·0	−1·2	61·4	+1·5
	137	9·5	12·7	−0·5	60·3	+0·4
	201	9·0	10·3	−2·9	59·0	−0·9
	202	9·0	16·3	+3·1	58·9	−1·0
2640	150	10·5	17. 35. 30·9	−1·6	3. 20. 16·8	−1·9
	162	10·5	32·6	−0·1	19·8	+1·1
	332*	10·5	32·7	0·0	19·5	+0·8
	338*	10·5	34·4	+1·5	18·5	−0·2
2663	150	10·5	17. 44. 45·0	−1·2	3. 3. 30·9	−0·8
	170	10·5	46·7	+0·2	32·2	+0·5
	342*	10·5	45·2	−1·0	30·2	−1·5
	349*	10·5	48·9	+1·9	33·3	+1·6
2664	150	10·0	17. 45. 27·2	−0·3	3. 15. 57·1	+0·3
	162	10·0	28·2	+0·5	54·8	−2·0
	332*	10·0	27·9	+0·3	58·0	+1·2
	349*	10·0	27·2	−0·3	57·3	+0·5
2666	205	10·5	17. 46. 53·4	−0·1	3. 54. 1·9	+0·6
	332*	10·5	53·9	+0·4	1·1	−0·2
	342*	10·5	53·2	−0·3	0·9	−0·4

2497 on 526. Bad bisection. Half-weight.
2523 on 391*. Ill seen.
2590 on 138. R.A. discordant. Correctly reduced.
2596 on 334*. 5 seconds have been taken off the observed R. A. Somewhat doubtful.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2669	204	10·5	17. 48. 14·5	−0·3	3. 58. 22·5	−0·8
	205	10·0	14·1	−0·7	22·0	−1·3
	334*	10·0	14·9	+0·1	22·9	−0·4
	342*	10·0	15·6	+0·8	25·6	+2·3
2670	170	9·5	17. 48. 35·9	+0·2	3. 1. 57·4	+0·2
	205	10·0	33·7	−1·6	56·1	−1·1
	221	10·0	36·1	+0·3	56·5	−0·7
	332*	10·0	36·0	+0·2	58·0	+0·8
	338*	9·5	36·6	+0·7	57·9	+0·7
2673	170	9·0	17. 49. 6·0	−1·8	3. 1. 39·1	−0·2
	205	9·0	9·0	+0·6	38·6	−0·7
	221	9·0	9·7	+1·1	39·9	+0·6
	332*	9·0	8·8	+0·4	40·1	+0·8
	338*	9·0	8·1	−0·2	39·0	−0·3
2681	170	10·5	17. 53. 56·5	−0·8	3. 44. 49·2	−1·3
	204	10·5	58·0	+0·7	53·1	+2·6
	342*	10·5	57·5	+0·2	48·9	−1·6
	349*	10·5	57·1	−0·2	50·7	+0·2
2700	39*	10·5	17. 59. 15·9	−0·5	2. 13. 46·7	−3·0
	53*	10·5	15·5	−0·7	49·9	+0·2
	201	10·5	18·1	+0·8	50·6	+0·9
	202	10·5	17·4	+0·4	51·4	+1·7
2704	170	10·0	18. 0. 33·9	−0·5	3. 43. 47·9	−0·7
	204	10·0	34·2	−0·2	47·0	−1·6
	342*	10·0	34·7	+0·3	49·3	+0·7
	349*	10·0	34·6	+0·2	50·2	+1·6
2709	208	10·5	18. 1. 57·5	+2·0	3. 36. 55·1	−0·7
	223	10·5	55·6	+0·2	56·3	+0·5
	342*	10·0	53·9	−1·4	54·9	−0·9
	349*	10·0	54·7	−0·7	56·8	+1·0
2714	170	10·0	18. 3. 44·8	+0·1	2. 55. 59·8	−0·4
	205	10·0	44·3	−0·3	59·6	−0·6
	338*	10·0	44·9	+0·2	60·9	+0·7
	349*	10·0	44·6	−0·1	60·5	+0·3
2722	208	10·5	18. 5. 41·3	+0·1	3. 54. 6·2	−1·5
	223	10·5	42·0	+0·8	7·4	−0·3
	342*	10·5	40·7	−0·5	8·9	+1·2
	360*	10·5	40·7	−0·5	8·4	+0·7
2723	223	10·5	18. 6. 14·3	−0·2	4. 3. 56·1	0·0
	225	10·5	14·8	+0·3	54·5	−1·6
	360*	10·0	14·3	−0·2	57·7	+1·6
2731	170	10·5	18. 9. 26·4	−1·0	2. 48. 39·7	−1·1
	208	10·5	29·0	+0·9	41·0	+0·2
	349*	10·0	28·5	+0·5	41·4	+0·6
	359*	10·5	27·2	−0·4	41·1	+0·3
2735	20*	9·0	18. 10. 49·1	−0·3	2. 10. 7·3	+0·1
	25*	10·0	48·9	−0·5	8·7	+1·5
	27*	9·5	49·9	+0·1	6·9	−0·3
	39*	9·5	48·8	−0·5	6·9	−0·3
	201	9·5	51·3	+0·9	5·8	−1·4
	205	9·5	50·0	+0·2	7·5	+0·3
2740	25*	10·0	18. 13. 7·9	−0·3	1. 18. 40·2	+1·1
	55*	10·0	5·9	−1·0	38·6	−0·5
	201	9·5	8·8	0·0	38·1	−1·0
	204	10·0	12·2	+1·2	39·4	+0·3
2752	39*	10·0	18. 18. 13·7	−0·2	2. 2. 37·7	−0·3
	58*	10·0	12·8	−0·6	37·2	−0·8
	202	10·0	13·8	−0·1	37·7	−0·3
	203	10·0	15·5	+0·8	39·5	+1·5
2758	225	10·5	18. 19. 38·5	−0·2	3. 35. 38·4	+0·1
	235	—	39·4	+0·7	37·9	−0·4
	534	11·0	37·0	−1·6	41·6	+3·3
	576	10·5	39·7	+0·9	36·9	−1·4
2761	170	10·0	18. 20. 3·8	−0·3	3. 48. 27·0	−2·0
	223	10·5	3·5	−0·6	27·7	−1·3
	351*	10·0	4·6	+0·5	31·4	+2·4
	360*	10·5	4·4	+0·3	29·7	+0·7
2762	27*	10·0	18. 20. 14·9	−0·8	1. 25. 16·9	−0·6
	58*	10·5	21·1	+1·5	18·6	+1·1
	201	10·0	15·6	−0·6	16·8	−0·7
	203	10·0	16·7	−0·1	17·7	+0·2
2766	53*	10·5	18. 21. 48·5	−0·3	1. 55. 51·3	+0·7
	64*	10·5	50·5	+0·7	50·5	−0·1
	208	10·5	48·6	−0·3	49·9	−0·7
	220	10·5	48·9	−0·1	50·7	+0·1
2769	43*	9·0	18. 24. 10·6	−0·5	2. 35. 51·7	+1·3
	60*	9·0	12·1	+0·5	49·4	−1·0
	203	9·0	12·9	+1·1	50·1	−0·3
	204	10·0	9·4	−1·3	50·3	−0·1
2770	25*	10·0	18. 24. 16·3	−0·4	1. 45. 34·4	+0·8
	39*	9·0	16·1	−0·5	33·9	+0·3
	201	9·0	16·9	−0·1	33·8	+0·2
	202	9·0	19·0	+0·9	32·3	−1·3

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2771	71*	7·0	18. 24. 25·3	−0·2	3. 1. 23·3	−0·8
	74*	—	25·5	−0·1	23·6	−0·5
	78*	—	25·2	−0·3	24·8	+0·7
	170	7·0	26·5	+0·7	22·9	−1·2
	228	7·0	26·1	+0·4	24·7	+0·6
	239	7·0	23·6	−1·6	24·3	+0·2
	248	8·0	26·8	+0·9	25·2	+1·1
2774	59*	10·5	18. 26. 14·2	+0·6	2. 29. 23·3	−0·1
	60*	10·5	12·8	−0·3	23·9	+0·5
	208	10·5	11·9	−0·9	23·2	−0·2
	220	10·5	14·2	+0·6	23·0	−0·4
2776	225	10·5	18. 27. 7·0	−0·5	2. 58. 11·9	+0·2
	228	10·5	6·4	−1·0	12·6	+0·9
	240	10·5	8·2	+0·4	12·1	+0·4
	248	10·0	9·0	+1·0	10·0	−1·7
2781	225	10·5	18. 28. 38·9	0·0	3. 13. 43·9	−0·4
	235	—	38·7	−0·2	43·0	−1·3
	360*	11·0	37·7	−1·0	46·2	+1·9
	576	11·0	40·3	+1·2	44·1	−0·2
2789	201	10·5	18. 32. 46·0	+0·2	2. 1. 33·6	0·0
	202	10·5	44·1	−0·8	33·6	0·0
	203	10·5	46·8	+0·6	33·6	0·0
2793	23*	8·0	18. 34. 25·8	+0·7	1. 16. 44·8	+0·8
	48*	9·0	24·1	+0·1	44·2	+0·2
	53*	8·5	23·2	−0·2	43·8	−0·2
	201	9·0	20·5	−1·1	44·6	+0·6
	203	9·5	23·7	0·0	42·9	−1·1
	228	9·0	25·1	+0·5	43·6	−0·4
2811	71*	—	18. 40. 8·7	−0·5	3. 30. 11·6	0·0
	79*	—	9·3	+0·1	12·8	+1·2
	205	9·0	9·6	+0·4	11·7	+0·1
	212	9·0	9·3	+0·1	10·6	−1·0
	233	9·0	9·1	−0·1	11·1	−0·5
2818	39*	10·5	18. 42. 29·3	−0·2	0. 50. 30·9	−1·1
	53*	10·0	33·7	+0·8	32·3	+0·3
	201	10·0	28·4	−0·4	32·1	+0·1
	202	10·5	24·9	−1·1	33·3	+1·3
	203	10·0	33·8	+0·8	31·2	−0·8
2819	39*	9·0	18. 42. 30·8	+0·2	2. 2. 4·0	0·0
	48*	9·0	30·0	−0·2	4·8	+0·8
	201	9·0	29·9	−0·3	4·0	0·0
	203	9·0	31·0	+0·3	3·2	−0·8
2837	71*	10·5	18. 48. 26·7	+0·1	2. 42. 51·6	−0·5
	79*	10·0	26·9	+0·2	53·0	+0·9
	205	10·0	26·5	−0·1	51·3	−0·8
	208	10·0	26·4	−0·1	52·3	+0·2
2848	39*	10·5	18. 51. 11·3	−1·1	1. 8. 10·9	−1·5
	48*	10·5	17·9	+0·8	12·7	+0·3
	53*	10·5	16·0	+0·3	12·8	+0·4
	201	10·0	17·7	+0·8	11·9	−0·5
	202	10·5	12·4	−0·8	13·5	+1·1
2852	71*	10·0	18. 52. 50·5	+0·9	3. 54. 26·0	−1·2
	74*	9·5	50·0	+0·4	28·0	+0·8
	79*	10·0	49·2	−0·4	28·2	+1·0
	170	10·0	49·0	−0·6	27·1	−0·1
	205	10·0	49·4	−0·2	26·8	−0·4
2861	79*	10·5	18. 56. 47·6	−0·6	3. 33. 41·6	−0·7
	223	10·5	47·0	−1·1	42·3	0·0
	225	10·5	50·3	+2·0	42·8	+0·5
	248	10·5	47·8	−0·4	42·3	0·0
2866	27*	10·0	18. 58. 9·1	−0·4	1. 4. 4·4	−0·1
	39*	10·0	8·7	−0·5	4·3	−0·2
	53*	10·0	12·8	+0·7	5·4	+0·9
	201	10·0	9·8	−0·2	4·6	+0·1
	202	10·0	11·8	+0·4	3·8	−0·7
2869	53*	10·5	18. 58. 52·2	+0·2	2. 23. 7·0	+0·1
	55*	10·5	52·4	+0·4	6·7	−0·2
	204	10·5	50·7	−0·7	7·9	+1·0
	205	10·5	51·8	0·0	6·0	−0·9
2871	71*	10·5	18. 59. 22·6	−0·7	3. 16. 7·7	−0·9
	79*	10·0	22·4	−0·9	9·6	+1·0
	208	10·5	24·3	+0·8	7·9	−0·7
	212	10·5	24·4	+0·9	9·1	+0·5
2873	74*	10·5	18. 59. 32·4	+0·5	3. 28. 46·8	+1·6
	233	10·5	30·3	−1·5	43·8	−1·4
	248	10·5	31·2	−0·6	44·5	−0·7
	250	10·5	33·5	+1·5	45·7	+0·5
2879	220	10·5	19. 0. 52·7	+0·3	4. 5. 54·1	+0·7
	223	10·5	52·5	+0·1	53·2	−0·2
	248	10·5	51·9	−0·5	52·8	−0·6

2758 on 534. N.P.D. has been altered 10″, and allowed half-weight.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
2881	74*	10·0	19. 1. 14·4	−0·1	3. 51. 45·5	+0·1	2967	79*	10·5	19. 33. 42·5	−1·6	3. 4. 48·1	−0·5
	208	9·5	14·1	−0·4	45·5	+0·1		225	10·5	44·8	+0·2	46·4	−2·2
	225	10·0	13·9	−0·6	45·1	−0·3		228	10·5	44·7	+0·2	50·1	+1·5
	250	10·0	15·6	+1·1	45·5	+0·1		248	10·5	45·9	+1·1	49·7	+1·2
2882	71*	8·0	19. 1. 36·1	0·0	3. 28. 45·6	−0·1	2973	20*	9·0	19. 36. 5·8	+0·2	2. 24. 18·5	−0·5
	74*	8·0	35·3	−0·7	46·4	+0·7		32*	9·5	5·8	+0·2	19·4	+0·4
	170	8·0	36·4	+0·3	45·0	−0·7		43*	9·5	6·0	+0·3	19·0	0·0
	212	8·5	36·7	+0·5	45·7	0·0		201	9·5	4·9	−0·4	18·6	−0·4
	233	8·5	35·3	−0·7	45·8	+0·1		208	9·0	5·1	−0·3	19·7	+0·7
	248	9·0	36·7	+0·5	45·6	−0·1	2976	23*	10·0	19. 37. 13·6	−1·0	1. 55. 54·4	+0·3
2883	170	10·5	19. 1. 42·6	−0·4	3. 44. 5·7	−1·3		32*	10·0	16·6	+0·6	53·5	−0·6
	223	10·5	43·1	+0·1	6·3	−0·7		43*	10·0	16·0	+0·3	54·5	+0·4
	248	10·5	41·8	−1·2	8·8	+1·8		203	10·0	16·7	+0·6	54·0	−0·1
	250	10·5	44·3	+1·3	7·1	+0·1		208	10·0	14·6	−0·5	54·2	+0·1
2885	79*	10·5	19. 2. 24·4	−0·3	3. 15. 27·9	+0·9	2977	32*	10·5	19. 37. 46·0	−0·1	0. 47. 8·1	+0·6
	212	10·5	24·1	−0·5	27·3	+0·3		43*	10·5	47·5	+0·2	6·9	−0·6
	225	10·5	25·5	+0·7	25·7	−1·3		203	10·5	48·2	+0·4	7·5	0·0
2889	32*	10·5	19. 5. 17·6	+0·7	1. 27. 15·8	−2·9		208	10·5	45·3	−0·2	7·8	+0·3
	48*	10·5	14·8	−0·3	20·9	+2·2		229	10·5	44·3	−0·4	7·4	−0·1
	203	10·5	17·1	+0·5	19·6	+0·9	2994	74*	10·5	19. 47. 22·8	+1·7	3. 17. 20·4	0·0
	204	10·5	13·1	−1·0	18·5	−0·2		79*	10·5	20·2	−0·5	21·2	+0·8
2901	71*	10·5	19. 9. 15·9	+0·1	3. 31. 47·5	+1·1		212	10·5	19·2	−1·4	20·7	+0·3
	79*	10·5	15·8	0·0	46·5	+0·1		225	10·5	20·8	0·0	19·1	−1·3
	170	10·5	16·9	+1·0	46·6	+0·2	3003	74*	10·0	19. 50. 39·7	+1·2	3. 11. 42·5	+1·7
	208	10·5	15·7	−0·1	45·7	−0·7		212	10·0	37·7	−0·5	41·6	+0·8
	223	10·0	14·9	−0·8	45·7	−0·7		225	10·5	39·0	+0·6	39·2	−1·6
2906	71*	10·0	19. 10. 11·0	−1·4	3. 48. 53·5	+0·4		248	10·0	36·7	−1·3	40·0	−0·8
	74*	10·0	13·1	+0·7	53·9	+0·8	3007	79*	10·5	19. 51. 2·6	−0·6	3. 34. 28·4	−0·2
	78*	10·0	13·2	+0·8	54·5	+1·4		87*	10·5	2·2	−0·9	29·2	+0·6
	170	9·5	11·8	−0·6	51·7	−1·4		227	10·5	4·2	+0·9	27·7	−0·9
	205	9·5	12·2	−0·2	51·9	−1·2		228	10·5	3·9	+0·7	29·1	+0·5
	223	10·0	12·8	+0·4	52·8	−0·3	3010	74*	10·5	19. 51. 53·0	+2·5	3. 28. 32·5	+1·9
2909	79*	10·5	19. 12. 2·3	−0·8	4. 5. 30·5	+0·2		87*	10·5	49·4	−0·8	32·0	+1·4
	208	10·5	3·5	+0·5	29·7	−0·6		227	10·5	49·8	−0·5	28·7	−1·9
	220	10·5	1·6	−1·5	32·2	+1·9		228	10·5	49·0	−1·2	29·2	−1·4
	248	10·5	4·6	+1·7	28·7	−1·6	3013	79*	10·0	19. 52. 22·0	−0·5	3. 55. 61·7	+1·5
2922	201	10·5	19. 16. 38·6	−0·5	2. 22. 38·6	+0·6		225	10·0	22·0	−0·5	60·5	+0·3
	202	10·5	37·5	−1·2	39·3	+1·3		233	10·5	23·3	+0·8	59·7	−0·5
	576	11·0	42·5	+1·9	37·6	−0·4		248	10·5	22·5	0·0	58·9	−1·3
	589	10·5	40·6	+0·7	36·6	−1·4	3015	79*	10·0	19. 54. 0·6	−0·4	3. 22. 42·0	+0·4
2927	20*	10·5	19. 20. 33·3	+1·1	2. 25. 18·0	+1·1		87*	9·5	0·7	−0·3	42·7	+1·1
	32*	10·5	31·1	−0·3	16·5	−0·4		205	9·5	1·3	+0·3	40·5	−1·1
	43*	10·5	33·7	+1·4	17·7	+0·8		208	9·0	1·5	+0·3	41·3	−0·3
	201	10·0	30·1	−0·9	17·0	+0·1	3023	20*	10·5	19. 55. 60·7	−0·9	0. 44. 44·8	+0·7
	202	10·5	29·5	−1·3	15·4	−1·5		23*	10·0	63·5	−0·3	43·3	−0·8
2928	78*	10·5	19. 21. 3·2	−0·2	3. 21. 54·4	−1·1		32*	10·5	63·3	−0·4	45·0	+0·9
	79*	10·5	2·3	−1·0	58·4	+2·9		43*	10·0	71·4	+1·2	44·4	+0·3
	225	10·5	3·8	+0·4	54·1	−1·4		201	10·0	58·7	−1·3	43·6	−0·5
	228	10·5	4·1	+0·6	54·9	−0·6		202	10·0	68·9	+0·7	43·8	−0·3
2932	74*	10·5	19. 22. 38·9	+0·2	3. 16. 37·5	+1·1		203	10·0	69·5	+0·9	43·8	−0·3
	79*	10·0	38·6	−0·1	36·5	+0·1	3029	74*	10·5	19. 58. 29·2	+1·1	3. 51. 19·1	+1·1
	205	10·5	38·7	0·0	36·3	−0·1		79*	10·5	27·7	−0·4	15·9	−2·1
	225	10·5	38·6	−0·1	35·2	−1·2		212	10·5	27·5	−0·6	19·0	+1·0
2936	32*	10·0	19. 24. 14·2	+0·4	1. 56. 41·4	+1·7		227	10·5	27·9	−0·2	17·8	−0·2
	43*	10·0	14·1	+0·2	39·8	+0·1	3035	74*	10·5	20. 0. 57·0	+0·5	3. 48. 31·6	−2·0
	203	10·0	14·1	+0·2	38·5	−1·2		79*	10·5	56·0	−0·5	35·0	+1·4
	208	10·0	12·9	−0·5	39·1	−0·6		212	10·5	57·2	+0·7	33·7	+0·1
2942	32*	9·5	19. 25. 35·4	−0·7	1. 26. 7·6	+1·0		227	10·5	55·6	−0·9	34·2	+0·6
	43*	9·5	36·0	−0·5	7·0	+0·4	3038	32*	10·5	20. 1. 38·3	−0·5	2. 8. 24·2	−0·9
	58*	9·5	39·7	+0·9	7·2	+0·6		48*	10·5	39·2	0·0	26·2	+1·1
	201	9·5	38·2	+0·4	6·5	−0·1		53*	10·5	41·9	+1·5	25·2	+0·1
	204	10·0	36·5	−0·3	4·9	−1·7		201	10·5	35·2	−2·2	24·7	−0·4
2946	201	10·5	19. 27. 47·7	−1·8	2. 28. 12·2	+0·4		204	10·5	41·3	+1·2	25·2	+0·1
	202	10·5	48·2	−1·4	11·7	−0·1	3044	87*	10·5	20. 3. 40·8	+0·3	3. 14. 1·1	+0·2
	576	10·5	51·8	+1·9	11·7	−0·1		228	10·5	40·8	+0·3	1·7	+0·8
	589	10·5	50·9	+1·1	11·7	−0·1		233	10·5	40·1	−0·3	0·4	−0·5
2953	71*	10·0	19. 28. 58·3	+0·1	3. 35. 23·7	+1·8		248	10·5	40·4	−0·1	0·5	−0·4
	74*	10·0	58·6	+0·4	22·6	+0·7	3046	87*	10·5	20. 4. 28·5	+0·7	3. 54. 58·9	−0·7
	225	9·5	57·4	−0·8	20·7	−1·2		228	10·5	27·1	−0·7	58·9	−0·7
	227	10·0	58·3	+0·1	20·5	−1·4		233	10·5	28·2	+0·4	60·4	+0·8
2955	79*	10·5	19. 29. 20·6	−0·1	2. 49. 9·7	−0·8		248	10·5	27·2	−0·6	60·1	+0·5
	227	10·5	22·6	+1·3	10·5	0·0	3048	79*	10·5	20. 5. 26·9	+0·4	3. 43. 29·4	+0·7
	228	10·5	21·6	+0·6	11·7	+1·2		227	10·5	25·0	−1·4	28·7	0·0
	248	10·5	18·5	−1·7	9·9	−0·6		228	10·5	26·2	−0·3	27·1	−1·6
2959	71*	9·5	19. 30. 48·2	−0·6	2. 55. 43·7	+1·0		248	10·5	27·7	+1·2	29·4	+0·7
	74*	9·0	49·5	+0·4	43·2	+0·5	3055	79*	9·5	20. 7. 53·6	+0·2	3. 44. 21·2	0·0
	79*	9·5	48·6	−0·3	42·9	+0·2		87*	10·0	53·2	−0·2	20·9	−0·3
	205	9·0	49·3	+0·2	42·1	−0·6		90*	9·5	52·7	−0·7	20·9	−0·3
	227	9·0	49·6	+0·5	41·8	−0·9		95*	10·0	53·5	+0·1	21·8	+0·6
2966	71*	10·0	19. 33. 33·6	+0·2	3. 30. 23·1	+0·9		225	9·0	54·1	+0·7	21·7	+0·5
	74*	9·5	33·4	0·0	23·0	+0·8		227	9·0	53·3	−0·1	20·8	−0·4
	205	10·0	32·7	−0·6	21·5	−0·7							
	225	9·5	34·0	+0·6	21·0	−1·2							

2922 on 576. R.A. uncertain by about 2 seconds. Half-weight.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
3060	23*	10·0	20. 8. 51·1	+1·0	2. 0. 14·6	−0·5	3193	23*	10·0	20. 53. 57·7	−0·8	1. 55. 19·9	+0·9
	48*	10·0	49·4	+0·2	16·5	+1·4		32*	9·5	58·8	+0·2	19·4	+0·4
	201	10·5	49·2	+0·1	13·7	−1·4		43*	9·5	62·7	+1·8	19·2	+0·2
	204	10·5	46·7	−1·3	15·4	+0·3		201	10·0	57·0	−1·1	18·9	−0·1
3069	227	10·5	20. 11. 52·8	+1·4	3. 44. 46·1	+0·2		204	9·5	59·7	−0·3	17·8	−1·2
	228	10·5	51·0	−0·4	47·8	+1·9	3198	64*	10·0	20. 55. 39·4	+1·0	4. 3. 40·1	+0·2
	248	10·5	50·3	−1·1	43·8	−2·1		79*	10·0	37·5	−1·1	40·2	+0·3
3070	204	10·5	20. 11. 53·1	−1·7	2. 5. 57·2	+0·7		227	10·0	38·7	+0·2	39·4	−0·5
	589	11·0	58·3	+1·2	56·5	0·0		228	9·5	38·2	−0·3	39·7	−0·2
	591	10·5	56·1	0·0	56·8	+0·3	3204	32*	10·5	20. 58. 5·8	−0·3	1. 39. 11·6	−1·1
	597	10·5	56·8	+0·4	55·3	−1·2		43*	10·5	11·4	+2·1	13·5	+0·8
3076	20*	9·5	20. 14. 10·1	+1·0	2. 14. 24·2	+0·6		201	10·5	2·9	−1·6	11·4	−1·3
	23*	10·0	9·6	+0·7	23·6	0·0		204	10·5	5·8	−0·3	14·3	+1·6
	32*	10·0	7·1	−0·8	23·3	−0·3	3215	23*	10·0	21. 2. 48·0	+0·1	2. 32. 6·9	+0·5
	39*	10·0	8·3	−0·1	24·6	+1·0		32*	10·0	50·0	+1·5	6·7	+0·3
	43*	9·5	7·2	−0·7	22·7	−0·9		201	10·5	47·7	−0·1	5·7	−0·7
	201	9·5	7·6	−0·5	23·9	+0·3		240	10·0	45·3	−1·7	6·4	0·0
	204	10·0	8·8	+0·2	22·6	−1·0	3230	39*	10·5	21. 11. 58·9	+0·4	2. 3. 60·4	+0·1
3078	39*	10·5	20. 15. 12·2	−0·8	2. 26. 15·9	+0·6		43*	10·0	60·5	+1·2	62·2	+1·9
	53*	10·5	16·2	+1·7	13·8	−1·5		233	10·5	57·4	−0·4	59·9	−0·4
	201	10·0	13·1	−0·3	16·0	+0·7		240	10·0	55·9	−1·2	58·7	−1·6
	208	10·0	12·4	−0·7	15·5	+0·2	3239	48*	10·5	21. 14. 14·5	−0·3	1. 39. 39·4	+0·6
3079	79*	10·5	20. 15. 37·3	−0·3	3. 59. 47·9	0·0		53*	10·5	17·3	+1·1	39·2	+0·4
	85*	10·5	38·1	+0·5	47·9	0·0		201	10·5	11·8	−1·4	38·0	−0·8
	225	10·5	37·4	−0·2	48·2	+0·3		208	10·5	16·6	+0·7	38·6	−0·2
	227	10·5	37·6	0·0	47·5	−0·4	3240	64*	10·0	21. 14. 21·3	+1·1	3. 40. 51·0	+0·6
3082	32*	9·0	20. 17. 9·6	0·0	1. 26. 27·8	+0·7		71*	10·0	20·5	+0·3	51·5	+1·1
	43*	9·0	9·8	+0·1	26·8	−0·3		212	9·5	19·2	−1·0	49·8	−0·6
	203	9·0	11·0	+0·5	27·0	−0·1		223	9·5	19·6	−0·6	49·4	−1·0
	204	9·0	8·1	−0·6	26·6	−0·5	3241	23*	10·5	21. 14. 51·7	−0·6	1. 37. 53·3	−0·3
3092	79*	10·5	20. 21. 0·2	−0·2	3. 59. 37·0	+1·4		48*	10·0	52·4	−0·3	54·1	+0·5
	85*	10·5	0·0	−0·4	35·4	−0·2		201	10·0	53·5	+0·1	53·4	−0·2
	225	10·5	0·8	+0·4	35·1	−0·5		208	10·0	55·1	+0·8	53·4	−0·2
	227	10·5	0·6	+0·2	34·8	−0·8	3248	43*	10·5	21. 19. 37·4	−0·7	2. 18. 49·4	−0·9
3105	79*	10·5	20. 24. 15·4	+0·2	3. 51. 9·8	+0·7		55*	10·0	38·2	−0·2	50·4	+0·1
	85*	10·5	15·3	+0·1	8·4	−0·7		208	10·0	40·1	+1·0	50·9	+0·6
	225	10·5	15·4	+0·2	8·8	−0·3		236	10·5	38·4	−0·1	50·4	+0·1
	227	10·5	14·8	−0·4	9·5	+0·4	3256	43*	10·0	21. 21. 26·3	−0·9	2. 17. 38·3	−1·4
3106	23*	10·0	20. 24. 15·9	+0·2	1. 33. 41·5	+0·1		55*	9·5	28·6	+0·5	40·8	+1·1
	32*	10·0	18·4	+1·3	39·8	−1·6		208	9·5	28·9	+0·7	39·7	0·0
	201	10·0	10·9	−1·7	42·3	+0·9		236	10·0	27·3	−0·3	39·9	+0·2
	203	9·5	16·1	+0·3	42·1	+0·7	3259	53*	10·0	21. 22. 18·8	+0·4	1. 51. 51·1	+1·1
3110	79*	10·5	20. 26. 55·9	−0·1	3. 39. 42·3	+1·1		95*	10·0	18·5	+0·2	50·5	+0·5
	85*	10·5	58·3	+2·2	40·0	−1·2		201	10·5	12·4	−2·7	49·1	−0·9
	225	10·5	55·7	−0·3	41·8	+0·6		236	10·5	18·7	+0·3	48·3	−1·7
	227	10·5	54·1	−1·8	40·5	−0·7		241	10·0	21·4	+1·7	51·1	+1·1
3113	79*	10·5	20. 27. 26·4	+0·5	3. 34. 25·5	+0·3	3260	64*	10·0	21. 22. 51·0	+0·6	3. 51. 58·4	0·0
	95*	10·5	25·4	−0·5	25·2	0·0		71*	10·0	50·3	−0·1	58·1	−0·3
	227	10·5	25·5	−0·4	24·9	−0·3		212	10·0	50·2	−0·2	58·0	−0·4
	228	10·5	26·4	+0·5	25·3	+0·1		223	10·0	49·9	−0·5	58·9	+0·5
3117	23*	10·5	20. 28. 46·1	0·0	1. 13. 57·6	+0·7	3267	53*	9·5	21. 25. 20·1	+0·9	2. 30. 29·0	+1·5
	32*	10·5	47·7	+0·3	56·9	0·0		55*	9·5	18·4	−0·2	27·7	+0·2
	201	10·5	42·5	−1·2	56·4	−0·5		208	9·5	19·9	+0·8	27·9	+0·4
	203	10·0	48·4	+0·7	56·8	−0·1		236	9·5	16·7	−1·3	26·4	−1·1
3125	79*	10·0	20. 30. 17·1	−0·1	4. 4. 36·9	+1·1		241	9·5	18·2	−0·3	26·7	−0·8
	85*	10·0	17·7	+0·5	35·9	+0·1	3270	23*	9·0	21. 26. 24·2	−0·2	3. 3. 17·2	+0·3
	95*	10·0	17·3	+0·1	36·3	+0·5		58*	9·5	24·0	−0·4	15·2	−1·7
	225	10·0	17·9	+0·8	35·2	−0·6		64*	9·5	25·6	+0·9	17·7	+0·8
	227	10·0	16·0	−1·3	34·7	−1·1		71*	9·5	24·2	−0·2	16·6	−0·3
3138	23*	9·0	20. 34. 34·8	−0·8	1. 18. 59·3	+0·2		208	9·0	26·2	+1·4	15·9	−1·0
	32*	9·0	41·7	+1·6	60·6	+1·5		212	9·5	24·3	−0·2	18·1	+1·2
	53*	9·0	37·7	+0·2	58·1	−1·0		223	9·5	23·2	−1·0	17·5	+0·6
	201	9·0	37·5	+0·1	59·6	+0·5		227	9·0	25·0	+0·4	17·5	+0·6
	204	9·5	33·1	−1·4	58·8	−0·3		240	9·5	24·0	−0·4	16·8	−0·1
	208	9·0	37·8	+0·2	58·2	−0·9	3276	53*	10·0	21. 28. 13·7	+1·7	1. 46. 52·5	+1·0
3158	79*	10·5	20. 40. 37·1	−1·2	3. 2. 59·8	+0·6		89*	10·0	12·4	+1·1	52·5	+1·0
	95*	10·5	40·1	+1·2	59·9	+0·7		201	10·0	7·0	−1·4	49·7	−1·8
	227	10·5	38·8	+0·2	57·8	−1·4		240	9·5	6·8	−1·5	51·2	−0·3
	228	10·5	38·4	−0·2	59·4	+0·2	3279	79*	10·5	21. 28. 44·0	−2·0	3. 16. 22·5	+2·1
3160	32*	9·0	20. 41. 17·4	+0·3	2. 31. 6·2	−0·9		85*	10·5	47·2	+0·8	22·6	+2·2
	43*	9·0	16·2	−0·5	7·2	+0·1		589	10·5	45·9	−0·3	16·8	−3·6
	53*	8·5	17·9	+0·7	6·6	−0·5		597	10·5	48·2	+1·6	19·6	−0·8
	201	9·0	15·1	−1·2	8·6	+1·5	3280	74*	10·5	21. 29. 15·2	+0·1	3. 35. 21·2	+1·0
	204	9·0	17·7	+0·5	7·0	−0·1		75*	10·5	16·3	+1·1	19·4	−0·8
3180	79*	10·5	20. 50. 3·1	−0·9	3. 54. 7·9	+0·6		212	10·5	15·0	−0·1	21·2	+1·0
	85*	10·5	3·3	−0·7	8·4	+1·1		223	10·5	13·8	−1·2	18·9	−1·3
	223	—	4·7	+0·7	7·9	+0·6	3292	89*	10·5	21. 32. 48·8	+0·2	1. 27. 34·8	−0·5
	227	10·5	4·8	+0·8	4·9	−2·4		95*	10·5	49·1	+0·3	35·1	−0·2
3187	79*	10·5	20. 51. 52·8	+0·3	3. 54. 23·7	+0·2		233	10·5	46·4	−0·8	36·4	+1·1
	85*	10·5	53·3	+0·8	25·2	+1·7		236	10·5	49·3	+0·3	35·0	−0·3
	223	—	52·0	−0·5	22·1	−1·4							
	227	10·5	51·8	−0·7	22·9	−0·6							

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3294	71*	10·0	21. 33. 19·7	+0·6	2. 42. 27·1	−0·5
	79*	10·0	19·0	+0·1	28·7	+1·1
	212	9·5	19·2	+0·2	27·3	−0·3
	223	10·0	18·1	−0·6	26·8	−0·8
	241	9·5	18·7	−0·1	28·0	+0·4
3295	64*	10·5	21. 33. 18·0	−1·1	4. 5. 57·9	−1·7
	85*	10·5	20·1	+1·2	62·1	+2·5
	208	10·5	18·7	−0·3	58·0	−1·6
	223	10·5	19·0	0·0	60·3	+0·7
3305	79*	10·5	21. 35. 27·3	—	3. 21. 20·0	—
3307	53*	10·5	21. 35. 48·4	+0·4	1. 35. 59·6	+0·8
	95*	10·5	47·8	+0·1	59·0	+0·2
	228	10·5	46·5	−0·4	58·8	0·0
	233	10·5	47·3	−0·1	57·8	−1·0
3317	53*	10·5	21. 41. 34·1	+0·7	1. 55. 29·5	−0·1
	55*	10·5	31·9	−0·4	29·3	−0·3
	89*	10·5	32·4	−0·2	30·2	+0·6
	208	10·5	33·4	+0·4	30·0	+0·4
	228	10·5	31·7	−0·5	28·9	−0·7
3341	64*	10·5	21. 50. 23·5	−0·6	3. 52. 49·9	−0·7
	79*	10·5	24·3	−0·2	50·1	−0·5
	208	10·5	26·0	+0·7	51·2	+0·6
	236	10·0	25·0	+0·2	51·0	+0·4
3345	75*	9·5	21. 51. 42·4	+0·2	4. 7. 7·5	+1·8
	79*	9·5	42·2	0·0	6·5	+0·8
	233	10·5	42·2	0·0	3·4	−2·3
	236	9·5	41·9	−0·3	5·4	−0·3
3347	71*	9·5	21. 52. 48·3	−0·1	3. 39. 47·1	−0·2
	85*	9·5	49·5	+1·1	48·4	+1·1
	95*	9·0	47·9	−0·5	47·4	+0·1
	236	9·5	47·8	−0·6	46·6	−0·7
	240	9·0	48·5	+0·1	46·8	−0·5
3351	74*	10·0	21. 53. 32·3	+0·6	3. 47. 54·4	+0·4
	95*	10·0	31·6	−0·1	54·7	+0·7
	208	9·5	32·0	+0·3	52·4	−1·6
	240	10·0	30·7	−1·0	54·6	+0·6
3352	74*	10·0	21. 53. 35·7	0·0	3. 48. 9·7	+0·8
	95*	10·0	36·6	+0·9	9·3	+0·4
	208	9·5	35·7	0·0	7·9	−1·0
	240	10·0	34·7	−1·0	8·8	−0·1
3353	74*	9·5	21. 53. 36·8	−0·5	3. 54. 15·6	−0·1
	75*	9·5	38·8	+1·5	17·0	+1·3
	79*	9·5	37·2	−0·1	15·9	+0·2
	208	9·0	37·4	+0·1	14·5	−1·2
	233	10·0	36·1	−1·2	15·6	−0·1
5356	85*	10·5	21. 54. 16·9	+0·5	2. 54. 5·9	+1·0
	95*	10·5	16·2	−0·1	4·7	−0·2
	236	10·0	16·3	0·0	4·2	−0·7
	240	10·5	15·6	−0·5	4·6	−0·3
3359	74*	—	21. 55. 33·8	+0·2	3. 56. 11·5	+1·0
	75*	10·5	37·6	+4·1	10·3	−0·2
	79*	10·0	32·2	−1·4	9·5	−1·0
	233	10·5	32·5	−1·1	11·6	+1·1
	236	10·0	32·1	−1·5	9·6	−0·9
3368	79*	10·0	21. 57. 56·5	−0·1	2. 43. 50·2	−0·2
	85*	10·5	56·8	+0·2	50·0	−0·4
	228	10·5	56·8	+0·2	50·4	0·0
	236	10·5	56·2	−0·4	50·8	+0·4
3369	64*	10·0	21. 58. 4·8	−1·8	3. 53. 24·3	+0·2
	75*	10·5	9·7	+3·2	25·0	+0·9
	208	10·0	7·4	+0·8	24·2	+0·1
	233	10·5	4·3	−2·3	22·7	−1·4
3374	53*	10·5	22. 0. 39·7	−0·2	1. 18. 14·4	−0·4
	95*	10·5	41·8	+0·5	15·8	+1·0
	236	10·5	39·3	−0·3	13·4	−1·4
	239	10·5	39·9	−0·1	15·6	+0·8
3375	85*	10·5	22. 0. 47·9	+0·2	4. 2. 52·3	−0·7
	95*	10·5	47·4	−0·3	53·6	+0·6
3376	48*	9·5	22. 0. 51·4	−0·3	2. 14. 53·7	−0·1
	208	10·0	53·0	+0·6	52·6	−1·2
	239	10·0	51·8	−0·1	54·1	+0·3
	240	10·5	51·5	−0·2	54·8	+1·0
3385	85*	10·5	22. 2. 60·2	+0·3	4. 2. 21·6	+0·8
	95*	10·5	61·0	+1·2	21·1	+0·3
	227	10·5	58·7	−1·3	20·8	0·0
	233	10·0	59·0	−1·0	20·9	+0·1
	588	10·5	60·9	+1·1	20·7	−0·1
	591	10·5	59·4	−0·5	19·9	−0·9
3398	79*	10·5	22. 6. 37·5	—	3. 48. 23·2	—
3400	64*	9·5	22. 6. 54·8	−1·7	2. 54. 11·1	−1·2
	71*	9·0	56·7	−0·2	13·1	+0·8
	75*	9·5	59·1	+1·6	13·4	+1·1
	208	9·0	58·7	+1·3	12·1	−0·2
	227	9·0	55·9	−0·8	11·7	−0·6
3411	53*	10·0	22. 10. 46·6	+0·3	1. 50. 16·4	+1·0
	89*	10·0	45·9	0·0	15·5	+0·1
	236	9·5	45·9	0·0	14·7	−0·7
	239	9·5	45·0	−0·4	14·8	−0·6
3412	64*	10·5	22. 10. 59·2	−0·1	3. 53. 59·0	+1·5
	71*	10·5	60·4	+1·1	59·1	+1·6
	85*	10·0	60·6	+1·3	57·5	0·0
	227	10·5	57·9	−1·4	56·0	−1·5
	236	10·0	58·3	−1·0	56·0	−1·5
3432	53*	10·5	22. 20. 18·6	+1·4	2. 17. 12·7	−0·3
	89*	10·5	14·9	−0·9	12·9	−0·1
	90*	10·5	17·0	+0·4	13·5	+0·5
	223	10·5	17·0	+0·4	12·9	−0·1
	239	10·5	14·3	−1·3	13·2	+0·2
3449	71*	10·5	22. 26. 57·0	+0·7	3. 31. 41·3	+0·5
	74*	10·0	56·5	+0·3	41·8	+1·0
	227	10·0	54·7	−1·4	40·3	−0·5
	233	10·5	56·5	+0·3	39·7	−1·1
3450	64*	10·5	22. 27. 25·1	+1·3	3. 8. 52·8	−2·1
	75*	10·0	24·2	+0·6	55·7	+0·8
	85*	10·0	24·8	+1·1	57·6	+2·7
	227	10·0	21·9	−1·3	54·7	−0·2
	236	9·5	21·5	−1·7	53·8	−1·0
3454	71*	10·5	22. 28. 31·5	−0·6	4. 5. 9·4	+2·7
	74*	10·5	33·0	+1·0	7·5	+0·8
	227	10·5	31·5	−0·6	5·9	−0·8
	233	10·5	32·3	+0·2	3·8	−2·9
3457	64*	10·5	22. 29. 7·6	+2·1	2. 47. 36·5	−1·4
	71*	10·5	5·4	+0·4	39·3	+1·4
	227	10·5	1·6	−2·3	38·0	+0·1
	233	10·5	4·5	−0·2	37·9	0·0
3460	89*	10·5	22. 29. 54·6	+1·3	2. 2. 17·6	+0·3
	90*	10·0	53·7	+0·9	17·2	−0·1
	223	10·5	51·4	−0·4	16·7	−0·6
	239	10·5	48·5	−1·9	17·5	+0·2
3465	53*	9·5	22. 30. 38·6	+0·2	1. 15. 59·3	+0·9
	89*	10·0	42·3	+1·5	58·8	+0·4
	236	9·5	38·4	+0·2	57·6	−0·8
	240	10·0	32·2	−1·9	58·0	−0·4
3473	53*	10·5	22. 37. 60·3	+0·6	1. 44. 21·7	+0·2
	88*	10·5	56·3	−1·2	22·2	+0·7
	90*	10·5	59·4	+0·2	21·6	+0·1
	223	10·5	59·1	+0·1	21·0	−0·5
	236	10·5	59·7	+0·3	21·1	−0·4
3479	71*	10·0	22. 40. 41·9	+0·2	2. 57. 8·2	−0·1
	74*	10·0	42·4	+0·5	9·1	+0·8
	227	10·0	40·0	−1·3	8·5	+0·2
	233	10·0	42·3	+0·5	7·2	−1·1
3487	53*	10·0	22. 43. 16·9	+1·0	1. 30. 6·3	−0·7
	55*	10·0	12·7	−0·7	7·8	+0·8
	90*	10·0	14·7	+0·1	7·9	+0·9
	223	10·0	14·2	−0·1	6·4	−0·6
	236	10·5	12·1	−0·9	6·6	−0·4
	247	9·5	15·7	+0·5	7·0	0·0
3488	71*	10·5	22. 43. 27·3	+0·7	3. 7. 42·5	+2·6
	74*	10·5	26·3	−0·2	37·8	−2·1
	227	10·5	26·3	−0·2	39·5	−0·4
	233	10·5	26·1	−0·3	39·6	−0·3
3493	71*	8·5	22. 45. 36·5	+0·7	3. 28. 25·1	+1·4
	74*	9·0	36·1	+0·4	24·0	+0·3
	227	9·0	35·9	+0·2	23·3	−0·4
	233	9·5	34·4	−1·2	22·4	−1·3
3498	79*	10·5	22. 46. 27·1	−0·8	3. 41. 10·0	−1·9
	85*	10·5	29·3	+1·4	14·8	+2·9
	589	10·5	28·2	+0·3	10·9	−1·0
	597	10·5	26·8	−1·1	11·7	−0·2
3512	79*	10·5	22. 51. 24·7	−0·2	3. 58. 38·2	+0·3
	85*	10·5	25·1	+0·2	37·5	−0·4
3515	90*	10·5	22. 53. 14·3	+0·3	2. 38. 29·1	−0·6
	95*	10·5	15·7	+1·3	30·9	+1·2
	233	10·5	14·1	+0·1	29·4	−0·3
	236	10·5	11·2	−1·8	29·5	−0·2
3522	90*	10·5	22. 54. 52·9	−1·2	2. 12. 36·2	+0·3
	95*	10·5	56·8	+1·1	33·5	−2·4
	253	10·5	54·9	0·0	37·9	+2·0

3376 on 240. Suspected to have become fainter.
3385. Twice observed instead of 3375 by mistake.
3450 on 236. Suspected to have become brighter.
3522 on 253. N. p. of 2 stars.

FIRST SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
3528	90*	10·5	22. 56. 30·7	−0·9	2. 8. 30·1	−3·1
	95*	10·5	34·6	+1·3	33·0	−0·2
	240	11·0	31·3	−0·6	34·0	+0·8
	253	10·5	32·5	+0·1	35·6	+2·4
3541	88*	10·0	23. 3. 34·4	−0·2	2. 15. 4·0	+0·7
	90*	10·5	35·0	+0·1	4·2	+0·9
	236	10·5	34·3	−0·3	2·4	−0·9
	240	10·5	35·4	+0·4	2·4	−0·9
3543	89*	10·0	23. 3. 43·5	−0·7	1. 24. 57·5	0·0
	123*	—	42·4	−1·1	57·7	+0·2
	253	10·0	48·8	+1·3	58·5	+1·0
	262	10·0	46·3	+0·4	56·4	−1·1
3544	89*	10·0	23. 3. 50·4	+0·6	2. 8. 11·6	+2·7
	95*	10·5	51·2	+1·0	8·5	−0·4
	236	10·5	51·1	+1·0	7·2	−1·7
	240	10·0	44·9	−2·5	8·1	−0·8
3545	74*	10·5	23. 5. 16·8	−0·1	3. 58. 36·1	+0·7
	75*	10·5	20·5	+3·8	32·1	−3·3
	227	10·5	15·6	−1·4	37·4	+2·0
	233	10·5	14·7	−2·3	36·1	+0·7
3546	90*	10·5	23. 5. 20·8	+0·5	1. 7. 53·9	−3·2
	233	10·5	13·9	−1·5	57·7	+0·6
	253	10·5	22·2	+0·9	57·8	+0·7
	263	10·5	19·5	+0·1	58·9	+1·8
3548	74*	10·5	23. 6. 12·5	+0·6	2. 50. 3·2	+0·3
	75*	10·5	14·0	+2·1	2·0	−0·9
	227	10·5	10·6	−1·3	4·0	+1·1
	233	10·5	10·5	−1·4	2·5	−0·4
3560	79*	10·5	23. 9. 7·2	+0·2	3. 10. 47·9	−3·5
	227	10·5	5·6	−1·2	51·9	+0·5
	236	10·5	8·1	+0·9	54·3	+2·9
3565	90*	10·5	23. 10. 32·6	−2·1	2. 38. 36·4	+0·7
	253	10·5	36·1	+0·3	36·5	+0·8
	262	10·5	37·2	+1·1	33·4	−2·3
	263	10·5	36·4	+0·6	36·5	+0·8
3577	74*	10·5	23. 13. 20·5	+0·6	4. 0. 3·1	+0·1
	75*	10·5	19·3	−0·6	3·1	+0·1
	227	10·5	20·0	+0·1	2·2	−0·8
	233	10·5	19·6	−0·3	3·5	+0·5
3585	74*	10·5	23. 15. 46·0	+0·2	3. 25. 30·9	−0·4
	75*	10·5	46·7	+0·8	33·3	+2·0
	233	10·5	44·7	−1·0	29·9	−1·4
	236	10·5	45·6	−0·2	30·9	−0·4
3593	95*	10·5	23. 18. 22·7	−1·0	2. 12. 57·6	−1·4
	236	10·5	25·3	+0·5	59·4	+0·4
	253	10·5	24·3	−0·1	59·5	+0·5
	263	10·5	25·5	+0·6	59·3	+0·3
3600	87*	10·5	23. 21. 3·6	−0·1	2. 9. 7·4	+0·9
	253	10·5	0·3	−1·9	5·6	−0·9
	262	10·5	5·9	+1·2	7·0	+0·5
	263	10·5	4·9	+0·7	6·1	−0·4
3601	87*	10·0	23. 21. 19·5	+0·3	0. 59. 14·6	−0·1
	89*	10·0	21·6	+0·9	14·1	−0·6
	240	10·0	16·1	−0·6	15·1	+0·4
	241	10·0	15·8	−0·6	15·1	+0·4
3607	74*	10·5	23. 23. 53·6	+1·2	3. 46. 5·5	+0·8
	75*	10·5	51·4	−1·0	3·2	−1·5
	233	10·5	53·2	+0·8	5·0	+0·3
	236	10·5	51·2	−1·2	5·0	+0·3
3611	74*	10·5	23. 24. 61·3	+1·5	3. 23. 47·9	+3·7
	79*	10·5	60·7	+1·0	45·3	+1·1
	236	10·5	58·1	−1·3	41·6	−2·6
	246	10·5	58·2	−1·3	41·9	−2·3
3614	75*	10·5	23. 25. 45·8	+0·5	3. 33. 17·2	−0·2
	79*	10·0	44·6	−0·7	19·4	+2·0
	236	10·5	44·8	−0·5	17·7	+0·3
	246	10·5	45·8	+0·5	15·4	−2·0
3633	74*	10·5	23. 32. 42·2	+1·3	3. 9. 27·8	+2·5
	79*	10·5	39·3	−1·1	27·1	+1·8
	236	10·5	39·9	−0·6	24·4	−0·9
	246	11·0	41·0	+0·3	22·0	−3·3
3642	86*	10·5	23. 35. 56·3	−0·9	1. 33. 16·3	+1·0
	87*	10·5	57·7	−0·3	14·4	−0·9
	253	10·5	60·6	+0·9	14·7	−0·6
	263	10·5	59·5	+0·4	15·6	+0·3
3645	86*	10·5	23. 36. 24·5	−1·4	1. 36. 41·0	0·0
	87*	10·5	25·9	−0·8	40·5	−0·5
	253	10·0	30·1	+0·9	39·9	−1·1
	263	10·0	31·2	+1·4	42·6	+1·5
3654	86*	10·5	23. 40. 28·4	−0·4	1. 36. 14·0	+0·6
	87*	10·5	27·3	−0·9	12·7	−0·7
	253	10·0	30·5	+0·5	12·8	−0·6
	263	10·0	31·5	+0·9	13·9	+0·5
3658	75*	10·0	23. 40. 56·1	+0·2	3. 26. 55·6	0·0
	79*	10·0	56·4	+0·5	56·9	+1·3
	236	10·0	55·1	−0·7	54·9	−0·7
	246	10·0	55·9	0·0	55·1	−0·5
3660	88*	9·0	23. 42. 23·1	−0·5	2. 27. 47·4	+0·3
	90*	10·0	24·8	+0·6	46·9	−0·2
	253	10·0	23·3	−0·4	46·6	−0·5
	263	9·5	24·5	+0·4	47·4	+0·3
3670	86*	10·0	23. 44. 3·3	−1·3	1. 57. 36·3	+0·6
	89*	10·0	5·7	−0·1	34·4	−1·3
	253	10·0	6·5	+0·4	36·5	+0·8
	263	10·0	7·5	+0·9	35·4	−0·3
3678	86*	10·0	23. 48. 52·6	−0·1	1. 15. 50·9	+0·3
	87*	10·5	51·1	−0·6	51·4	+0·8
	253	10·5	52·0	−0·3	50·0	−0·6
	339	10·0	56·2	+1·1	50·2	−0·4
3680	74*	10·5	23. 49. 13·4	0·0	4. 1. 43·8	+1·2
	79*	10·5	13·0	−0·4	43·8	+1·2
	236	10·5	13·5	+0·1	42·2	−0·4
	246	10·5	13·5	+0·1	40·4	−2·2
3689	87*	10·0	23. 51. 58·1	+0·2	1. 21. 40·5	−0·3
	90*	10·0	56·5	−0·4	41·2	+0·4
	253	9·5	56·4	−0·4	42·2	+1·4
	263	10·0	59·4	+0·6	39·3	−1·5
3693	74*	8·0	23. 52. 49·6	−0·3	4. 6. 1·6	+0·2
	79*	8·0	49·9	0·0	2·5	+1·1
	236	8·0	48·9	−1·1	1·4	0·0
	246	7·5	51·1	+1·3	0·1	−1·3
3695	74*	10·0	23. 54. 3·3	+0·9	4. 8. 18·9	+0·9
	79*	10·0	2·5	0·0	19·1	+1·1
	236	10·0	1·5	−1·1	17·5	−0·5
	246	10·0	2·8	+0·3	16·6	−1·4
3699	75*	9·0	23. 55. 18·4	+2·6	3. 46. 29·7	+0·2
	85*	9·0	15·9	+0·1	31·5	+2·0
	236	9·0	14·0	−1·8	28·6	−0·9
	246	9·5	14·8	−1·0	28·3	−1·2
3709	75*	9·5	23. 58. 8·7	+1·5	2. 55. 6·4	−0·4
	85*	9·5	8·6	+1·5	7·2	+0·4
	236	9·5	4·7	−1·5	6·8	0·0
	248	9·5	4·6	−1·6	6·9	+0·1
3714	74*	9·0	23. 59. 37·9	+0·3	4. 1. 8·1	+0·5
	79*	9·0	37·7	+0·1	7·8	+0·2
	236	9·5	37·0	−0·6	7·4	−0·2
	246	9·5	37·8	+0·2	7·0	−0·6

3544 on 240. The R. A. is correctly reduced.
3593 on 236. 10^s have been added to the observed R.A.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
0001	489*	10·5	0. 1. 32·7	−0·8	4. 47. 2·1	−0·4	0069	615	9·5	0. 27. 41·4	+0·2	6. 2. 42·2	−1·2
	631	10·0	34·1	+1·0	3·3	+0·8		656	9·5	41·5	+0·3	43·8	+0·4
	632	10·0	33·2	−0·1	2·0	−0·5		664	9·5	41·1	−0·3	44·2	+0·8
0002	492*	10·0	0. 1. 50·9	+0·9	6. 39. 18·5	−0·2	0072	492*	10·5	0. 28. 4·4	−0·7	4. 32. 2·2	+0·7
	629	10·0	50·0	−0·7	19·1	+0·4		655	10·5	5·0	0·0	0·8	−0·7
	633	10·0	50·3	−0·2	18·5	−0·2		669	10·5	5·6	+0·7	1·5	0·0
0006	492*	10·5	0. 3. 54·5	−1·7	6. 16. 53·0	+1·0	0075	607	10·5	0. 28. 60·0	+0·6	5. 27. 0·7	−0·6
	607	10·5	56·2	+1·2	51·0	−1·0		633	10·5	59·0	−0·9	1·5	+0·2
	619	10·0	55·7	+0·3	51·9	−0·1		676	10·0	59·8	+0·3	1·8	+0·5
0008	632	10·5	0. 4. 14·6	−0·2	5. 50. 27·5	−0·5	0077	616	10·0	0. 29. 36·2	0·0	5. 33. 35·0	−0·6
	633	10·5	15·4	+1·1	27·6	−0·4		655	10·0	36·3	+0·1	36·5	+0·9
	655	10·5	14·0	−1·1	28·8	+1·8		676	10·0	36·1	−0·1	35·4	−0·2
0010	489*	10·0	0. 4. 26·4	+1·8	6. 45. 43·6	+1·6	0078	619	10·0	0. 30. 12·8	+0·9	6. 25. 25·8	−0·2
	615	10·0	24·7	−1·3	41·5	−0·5		629	10·0	12·3	0·0	26·2	+0·2
	616	10·0	25·1	−0·5	41·0	−1·0		664	10·0	11·7	−1·0	26·1	+0·1
0019	607	9·5	0. 7. 45·6	+0·8	5. 51. 2·6	+0·3	0079	492*	10·5	0. 30. 18·8	−0·3	4. 52. 42·4	+1·3
	619	9·5	44·6	−0·8	2·0	−0·3		656	10·5	19·3	+0·4	40·4	−0·7
0020	492*	10·5	0. 8. 52·0	−1·6	6. 51. 48·5	+1·1		682	10·5	18·8	−0·3	40·6	−0·5
	616	10·5	53·2	+0·5	46·2	−1·2	0080	489*	10·5	0. 30. 57·9	+0·2	4. 18. 19·8	+0·8
	632	10·5	53·6	+1·3	47·4	0·0		632	10·5	56·5	−1·4	18·8	−0·2
0021	489*	10·0	0. 9. 1·2	−1·2	5. 37. 5·7	+0·2		669	10·5	58·8	+1·2	18·4	−0·6
	606	10·5	1·6	−0·6	5·7	+0·2	0082	656	10·5	0. 31. 30·3	0·0	6. 33. 5·5	+0·4
	615	10·5	2·3	+0·4	4·6	−0·9		669	10·5	30·8	+0·9	5·8	+0·7
	629	10·0	3·0	+1·5	5·9	+0·4		676	10·5	29·8	−0·9	4·0	−1·1
0025	615	10·5	0. 11. 48·1	+0·5	5. 8. 12·3	−0·6	0087	489*	10·5	0. 33. 12·4	+0·5	4. 19. 12·3	+0·3
	619	11·0	47·0	−0·9	14·2	+1·3		616	10·5	11·4	−0·7	11·4	−0·6
	632	10·5	48·1	+0·5	12·3	−0·6		632	10·5	12·2	+0·2	12·2	+0·2
0030	607	10·5	0. 14. 25·9	+0·4	4. 52. 13·5	+0·3	0089	492*	10·0	0. 33. 51·9	−0·3	5. 44. 42·1	+1·0
	629	10·5	25·8	+0·3	13·0	−0·2		607	10·0	52·9	+1·2	40·5	−0·6
	656	10·5	25·2	−0·5	13·2	0·0		619	10·0	51·6	−0·8	40·8	−0·3
0031	606	10·0	0. 14. 46·6	+0·2	6. 3. 0·8	−0·1	0093	615	10·5	0. 36. 52·0	−1·1	6. 54. 54·6	−1·4
	616	10·5	46·5	0·0	0·9	0·0		616	10·5	52·6	0·0	56·0	0·0
	633	10·0	46·3	−0·3	0·9	0·0		632	10·5	53·1	+0·9	57·4	+1·4
0032	489*	10·5	0. 14. 52·1	−0·5	4. 46. 10·9	+1·7	0095	489*	10·0	0. 37. 24·6	0·0	6. 9. 24·1	−0·4
	607	10·5	52·7	+0·3	8·3	−0·9		492*	10·0	24·7	+0·2	25·9	+1·4
	656	10·0	52·6	+0·1	8·3	−0·9		619	10·0	24·6	0·0	23·4	−1·1
0034	615	10·5	0. 15. 46·8	−1·6	5. 9. 39·7	−0·7	0101	489*	9·5	0. 39. 46·1	+0·8	5. 5. 13·7	+0·7
	632	11·0	49·0	+1·4	40·8	+0·4		607	10·0	45·2	−0·4	13·8	+0·8
	669	10·5	48·1	+0·1	40·7	+0·3		615	9·5	45·3	−0·3	11·5	−1·5
0043	606	10·0	0. 17. 46·3	+0·2	6. 31. 45·9	+0·3	0104	489*	9·5	0. 40. 51·8	+0·3	5. 19. 52·1	+1·3
	629	10·0	46·2	0·0	45·3	−0·3		615	9·5	51·6	0·0	50·1	−0·7
	669	10·0	46·2	0·0	45·5	−0·1		629	9·5	51·5	−0·1	50·3	−0·5
0044	607	10·0	0. 18. 1·2	+0·5	4. 48. 1·9	+0·5	0106	492*	10·0	0. 41. 17·3	−1·5	5. 29. 14·3	+1·3
	632	10·0	0·6	−0·3	1·1	−0·3		607	10·0	19·1	+1·2	12·3	−0·7
	656	10·0	0·5	−0·4	1·1	−0·3		632	10·0	18·4	+0·2	12·3	−0·7
0046	615	10·5	0. 19. 29·1	+0·2	6. 39. 42·7	−0·9	0112	489*	10·5	0. 43. 6·3	−1·0	4. 57. 20·0	+0·2
	619	10·5	29·1	+0·2	45·1	+1·5		619	10·5	8·3	+1·6	19·7	−0·1
	656	10·5	28·7	−0·5	43·1	−0·5		633	10·5	6·8	−0·4	19·8	0·0
0048	606	10·5	0. 19. 52·1	+1·7	5. 46. 31·7	0·0	0114	616	10·5	0. 43. 46·2	0·0	6. 11. 44·5	0·0
	616	10·5	49·0	−3·0	31·8	+0·1		629	11·0	46·7	+0·8	44·7	+0·2
	669	10·5	52·0	+1·5	31·7	0·0		632	10·5	45·8	−0·7	44·2	−0·3
0051	492*	10·0	0. 22. 25·0	−0·6	4. 41. 34·2	+1·2	0121	489*	10·0	0. 46. 50·4	+0·5	4. 32. 16·8	+1·5
	607	10·0	25·8	+0·4	32·4	−0·6		607	10·0	49·7	−0·4	15·2	−0·1
	656	10·0	25·7	+0·2	32·4	−0·6		615	10·0	49·8	−0·2	14·0	−1·3
0052	489*	9·0	0. 22. 28·9	+0·4	4. 28. 56·0	+0·1	0122	492*	10·0	0. 47. 26·6	−0·3	6. 7. 58·4	+2·0
	629	9·5	28·5	−0·1	56·6	+0·7		616	9·5	26·8	0·0	55·7	−0·7
	656	9·5	28·5	−0·1	55·2	−0·7		633	10·0	27·1	+0·5	55·1	−1·3
0055	606	10·5	0. 22. 46·2	−0·5	5. 45. 19·3	+0·3	0124	492*	8·5	0. 48. 24·8	−0·5	6. 10. 34·6	+1·4
	616	10·5	45·6	−1·4	18·6	−0·4		616	8·5	25·3	+0·3	32·5	−0·7
	632	10·5	47·0	+0·8	19·4	+0·4		639	9·0	25·2	+0·2	32·5	−0·7
	655	10·5	47·2	+1·1	18·8	−0·2	0125	492*	10·5	0. 48. 51·0	−0·4	6. 42. 15·4	−0·7
0057	606	10·0	0. 23. 16·0	−0·2	5. 48. 40·5	−0·5		629	10·5	51·1	−0·2	15·8	−0·3
	615	10·0	16·2	+0·2	41·5	+0·5		639	10·5	51·4	+0·4	17·1	+1·0
	655	10·0	16·0	−0·2	41·0	0·0	0129	615	10·5	0. 49. 37·4	+0·4	5. 13. 56·3	+0·6
0062	606	9·5	0. 25. 17·9	−0·2	5. 42. 24·6	−0·5		632	10·5	37·3	+0·3	55·5	−0·2
	616	9·5	18·0	0·0	25·1	0·0		655	10·5	36·6	−0·7	55·4	−0·3
	655	9·5	18·1	+0·2	25·7	+0·6	0131	489*	5·0	0. 49. 42·9	0·0	4. 31. 23·5	0·0
0063	489*	10·0	0. 25. 28·6	+1·4	4. 49. 50·0	−0·6		507*	5·0	42·5	−0·5	23·4	−0·1
	492*	9·5	27·0	−0·6	50·8	+0·2		607	5·0	43·2	+0·4	23·5	0·0
	664	9·5	26·9	−0·8	51·1	+0·5	0133	489*	10·0	0. 50. 39·2	+1·0	4. 58. 58·6	+0·8
0064	607	10·0	0. 25. 37·5	−0·3	6. 34. 23·1	−0·3		619	10·0	38·4	0·0	57·3	−0·5
	629	10·0	38·0	+0·5	23·4	0·0		633	10·0	37·6	−1·0	57·6	−0·2
	669	10·0	37·7	0·0	23·6	+0·2	0134	489*	10·5	0. 50. 38·5	−0·8	4. 20. 8·2	+1·1
0065	619	9·5	0. 26. 19·3	−0·2	6. 7. 24·0	0·0		629	10·5	40·3	+1·3	6·6	−0·5
	633	9·0	20·0	+1·0	23·7	−0·3		632	10·5	38·8	−0·5	6·5	−0·6
	676	9·0	18·9	−0·8	24·2	−0·2	0152	507*	10·0	0. 55. 52·8	+0·4	6. 37. 30·2	−0·7
0067	615	9·5	0. 27. 20·1	−0·2	6. 3. 6·5	+0·1		616	10·5	51·9	−1·2	30·3	−0·6
	656	9·5	20·4	+0·3	6·0	−0·4		619	10·0	53·2	+1·0	32·2	+1·3
	664	9·5	20·2	0·0	6·6	+0·2	0153	489*	10·5	0. 56. 26·0	−0·6	4. 22. 34·7	+0·9
0068	489*	10·0	0. 27. 21·7	0·0	4. 24. 13·4	0·0		615	10·5	26·2	−0·3	32·8	−1·0
	632	10·0	21·8	+0·1	13·7	+0·3		629	10·5	27·3	+0·9	33·9	+0·1
	669	10·0	21·6	−0·1	13·2	−0·3							

The numbers in Column 'Day' are reckoned from 1854, Jan. 1. An asterisk following the Day-number indicates that the star was observed at its inferior transit.

The magnitudes here given are the uncorrected estimations made during the meridian observations.

0048 on 616. The R.A. appears to be 3ˢ too little; but I find no error.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0154	632	10·5	0. 56. 45·4	+0·2	7. 0. 54·9	−0·5
	633	10·5	44·8	−0·9	55·7	+0·3
	639	10·5	45·6	+0·6	55·7	+0·3
0157	507*	9·5	0. 58. 14·9	+0·1	5. 40. 40·4	−0·3
	619	10·0	14·2	−0·9	40·9	+0·2
	655	10·0	15·3	+0·7	40·9	+0·2
0158	632	10·5	0. 58. 27·8	−0·6	7. 0. 16·9	−0·4
	633	10·5	28·7	+1·1	17·2	−0·1
	639	10·5	27·7	−0·7	17·7	+0·4
0162	507*	10·0	0. 59. 59·2	−0·2	6. 11. 41·9	+0·3
	616	10·0	58·9	−0·6	41·2	−0·4
	629	10·0	59·9	+1·0	41·6	0·0
0166	633	10·5	1. 0. 41·1	−1·0	6. 30. 51·3	−0·2
	639	10·5	41·7	0·0	51·7	+0·2
	656	10·5	42·2	+0·9	51·5	0·0
0167	507*	10·0	1. 0. 53·4	−0·3	4. 20. 44·6	+0·4
	615	10·5	53·2	−0·6	43·7	−0·5
	656	10·5	54·4	+0·8	44·3	+0·1
0168	509*	10·0	1. 2. 41·2	−0·2	6. 0. 39·3	+0·8
	639	10·0	41·6	+0·5	38·2	−0·3
	676	10·0	41·1	−0·3	37·9	−0·6
0169	616	10·0	1. 2. 53·9	−0·4	5. 38. 8·4	−1·2
	619	10·0	54·0	−0·3	10·5	+0·9
	664	10·0	54·7	+0·7	9·9	+0·3
0170	615	10·5	1. 3. 0·6	−2·3	6. 44. 9·7	−0·5
	639	10·5	2·9	+1·8	11·4	+1·2
	676	10·5	2·3	+0·7	9·4	−0·8
0171	507*	10·0	1. 3. 32·9	−0·3	4. 50. 36·4	+0·9
	656	10·0	33·7	+0·8	36·3	+0·8
	664	10·5	32·6	−0·6	33·9	−1·6
0174	632	10·0	1. 4. 9·8	−0·3	6. 32. 24·3	+0·3
	633	10·0	9·5	−0·9	23·3	−0·7
	669	10·0	10·6	+1·0	24·5	+0·5
0176	509*	10·5	1. 4. 57·1	−0·6	5. 53. 28·4	+0·5
	639	10·5	58·2	+1·1	27·1	+0·8
	676	10·5	57·1	−0·6	28·3	+0·4
0177	619	10·5	1. 5. 53·2	+2·2	5. 14. 12·3	+0·4
	669	10·5	51·6	0·0	12·1	+0·2
	676	10·5	50·1	−2·1	11·4	−0·5
0179	507*	10·0	1. 6. 11·4	+1·3	6. 57. 26·3	+0·8
	633	10·0	10·1	−1·1	25·0	−0·5
	664	10·5	10·5	−0·4	25·2	−0·3
0182	615	10·0	1. 6. 38·8	−0·2	6. 15. 50·0	−0·6
	656	10·0	38·9	0·0	50·3	−0·3
	664	10·0	38·9	0·0	51·5	+0·9
0185	616	10·5	1. 7. 41·9	−0·1	5. 9. 25·3	−0·3
	632	10·5	41·9	−0·1	26·2	+0·6
	669	10·5	42·2	+0·3	25·3	−0·3
0186	507*	9·5	1. 8. 37·8	−0·5	6. 1. 33·8	−0·5
	509*	10·0	37·4	−1·1	33·9	−0·4
	619	10·0	39·2	+1·7	35·2	+0·9
0190	507*	9·0	1. 11. 53·4	+0·4	5. 21. 54·1	+0·7
	615	10·0	53·5	+0·6	52·7	−0·7
	633	9·5	52·4	−1·0	53·3	−0·1
0192	509*	10·0	1. 12. 18·6	−0·4	5. 15. 13·1	+1·5
	616	10·0	18·5	−0·6	10·7	−0·9
	632	10·0	19·6	+1·0	11·1	−0·5
0196	489*	10·5	1. 16. 10·7	+1·6	4. 38. 37·8	−0·3
	509*	10·5	8·6	−1·0	38·2	+0·1
	615	10·5	9·0	−0·5	38·2	+0·1
0198	509*	10·5	1. 16. 16·9	−0·7	7. 0. 33·1	+1·1
	616	10·5	17·3	0·0	32·1	+0·1
	632	10·5	17·8	+0·9	30·9	−1·1
0206	489*	10·0	1. 18. 35·7	0·0	6. 16. 3·5	0·0
	492*	10·0	36·3	+1·0	4·7	+1·2
	633	9·5	35·0	−1·2	2·2	−1·3
0209	489*	10·0	1. 21. 19·2	−0·3	5. 31. 36·9	+1·2
	615	10·0	18·9	−0·7	34·6	−1·1
	629	10·5	20·0	+0·9	35·6	−0·1
0214	492*	10·0	1. 23. 50·0	0·0	5. 47. 47·3	+1·1
	509*	10·0	49·9	−0·2	45·8	−0·4
	629	10·0	50·2	+0·3	45·4	−0·8
0215	507*	10·5	1. 24. 14·9	−1·1	5. 15. 54·0	+1·1
	633	10·5	15·9	+0·3	53·2	+0·3
	676	10·5	16·2	+0·7	51·5	−1·4
0216	507*	10·5	1. 24. 40·9	+0·2	6. 52. 59·7	+2·9
	669	10·5	40·8	0·0	55·3	−1·5
	676	10·5	40·6	−0·4	55·5	−1·3
0217	509*	11·0	1. 24. 44·4	−1·2	4. 56. 39·8	+0·3
	615	11·0	44·3	−1·3	40·3	+0·8
	669.	10·5	47·2	+2·5	38·4	−1·1

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0218	492*	10·0	1. 24. 50·9	−0·1	4. 28. 12·5	+1·1
	632	10·0	51·0	0·0	10·9	−0·5
	664	10·0	51·0	0·0	10·9	−0·5
0221	489*	10·5	1. 26. 3·9	−0·4	5. 1. 33·7	+0·5
	615	10·5	3·8	−0·5	32·6	−0·6
	682	10·5	5·0	+1·1	33·3	+0·1
0224	507*	10·0	1. 26. 28·3	+0·2	6. 38. 19·8	+0·8
	629	10·5	28·6	+0·7	18·6	−0·4
	676	10·5	27·7	−0·9	18·6	−0·4
0225	489*	9·5	1. 27. 28·3	−0·9	5. 31. 5·8	+0·4
	656	9·5	28·9	0·0	5·5	+0·1
	682	9·5	29·6	+1·0	5·0	−0·4
0226	509*	10·0	1. 28. 18·1	−0·6	4. 47. 41·0	+0·5
	633	10·0	18·2	−0·5	40·5	0·0
	682	10·5	19·6	+1·3	40·0	−0·5
0227	492*	10·0	1. 28. 32·2	−0·7	5. 40. 27·0	+1·5
	664	10·0	32·8	+0·1	24·6	−0·9
	676	10·0	33·0	+0·4	24·9	−0·6
0228	492*	10·5	1. 28. 40·2	−0·6	4. 6. 47·3	+1·7
	632	10·5	41·7	+1·0	45·0	−0·6
	669	10·5	40·6	−0·2	44·5	−1·1
0230	488*	10·5	1. 29. 11·5	+0·3	5. 25. 52·7	−1·0
	656	10·5	11·2	−0·1	54·7	+1·0
	669	10·5	11·2	−0·1	53·7	0·0
0233	489*	10·0	1. 31. 10·3	+0·3	6. 21. 7·3	+1·4
	509*	9·5	10·1	0·0	6·7	+0·8
	632	10·0	10·0	−0·2	3·7	−2·2
0235	488*	10·0	1. 31. 35·7	+0·4	4. 39. 26·4	+0·2
	629	10·0	36·1	+0·9	26·3	+0·1
	633	10·0	34·5	−1·1	26·0	−0·2
0239	492*	10·5	1. 32. 32·4	+0·5	6. 18. 20·4	+0·9
	509*	10·0	31·4	−1·2	20·0	+0·5
	632	10·0	32·4	+0·5	18·1	−1·4
0243	489*	9·5	1. 33. 10·0	+0·7	6. 23. 48·4	−0·2
	509*	9·5	9·1	−0·8	49·0	+0·4
	656	9·5	9·6	0·0	48·4	−0·2
0247	488*	9·5	1. 34. 22·2	+0·6	5. 34. 36·6	+0·8
	633	9·5	21·1	−1·0	35·8	0·0
	669	9·5	22·1	+0·4	35·1	−0·7
0249	489*	10·0	1. 35. 6·5	+0·4	6. 39. 32·6	−0·9
	492*	10·5	6·7	+0·7	35·2	+1·7
	676	10·0	5·6	−1·2	32·6	−0·9
0252	488*	10·0	1. 36. 22·7	−0·3	4. 58. 26·5	+0·1
	629	10·0	22·7	−0·3	26·7	+0·3
	669	10·0	23·4	+0·7	26·1	−0·3
0254	488*	10·5	1. 37. 45·5	−0·2	4. 29. 50·1	+0·7
	509*	10·5	44·4	−1·5	49·9	+0·5
	656	10·5	47·3	+1·9	48·3	−1·1
0255	492*	10·0	1. 37. 46·2	0·0	6. 49. 35·2	+1·5
	632	10·0	46·2	0·0	31·8	−1·9
	676	10·0	46·1	−0·2	34·1	+0·4
0257	507*	10·0	1. 38. 25·5	−0·9	6. 59. 56·1	+0·3
	629	10·0	25·9	−0·2	55·4	−0·4
	683	10·0	26·5	+0·9	55·8	0·0
0259	509*	10·5	1. 38. 39·8	−0·6	5. 29. 3·8	+0·6
	669	10·5	39·0	−1·7	4·0	+0·8
	682	10·5	41·7	+2·2	1·7	−1·5
0260	489*	9·5	1. 39. 9·7	−0·6	5. 58. 29·4	+0·7
	507*	9·0	10·1	0·0	29·4	+0·7
	683	9·5	10·5	+0·6	27·2	−1·5
0261	633	10·5	1. 39. 44·4	−0·2	6. 21. 26·8	+0·3
	669	10·5	44·8	+0·5	25·2	−1·3
	698	10·5	44·2	−0·5	27·5	+1·0
0262	629	10·5	1. 39. 49·2	−0·2	6. 2. 37·8	−0·2
	682	10·5	50·3	+1·6	37·1	−0·9
	703	10·5	48·4	−1·4	39·1	+1·1
0264	632	10·5	1. 40. 8·2	0·0	6. 9. 57·8	−0·2
	692	10·5	8·6	+0·6	58·2	+0·2
	698	10·5	7·9	−0·5	58·0	0·0
0265	488*	10·5	1. 40. 45·2	+0·4	4. 14. 38·2	+0·3
	676	10·0	45·0	+0·2	37·8	−0·1
	693	10·0	44·2	−0·7	37·8	−0·1
0268	633	10·5	1. 40. 55·2	−1·7	4. 52. 56·5	+0·8
	683	10·5	58·4	+2·4	55·7	0·0
	693	10·5	55·9	−0·8	54·9	−0·8
0269	489*	10·0	1. 41. 13·8	−1·2	5. 48. 54·9	+0·5
	507*	10·0	14·8	+0·3	55·4	+1·0
	698	10·0	15·2	+0·9	52·9	−1·5
0270	488*	10·5	1. 42. 51·8	+0·6	4. 49. 51·0	+0·2
	509*	10·5	50·4	−1·1	51·4	+0·6
	682	10·5	51·8	+0·6	50·1	−0·7

0261 on 633. 10^{s} have been added to the observed R.A.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0275	489*	10·0	1. 45. 34·9	−0·3	6. 19. 61·3	+0·2
	492*	10·5	35·5	+0·7	62·4	+1·3
	507*	10·0	35·0	−0·2	59·5	−1·6
0281	489*	10·5	1. 48. 48·9	+0·9	7. 1. 14·0	+0·2
	509*	10·5	48·1	−0·6	14·9	+1·1
	629	10·5	48·2	−0·4	12·6	−1·2
0283	489*	8·0	1. 50. 49·9	−0·4	4. 57. 30·3	0·0
	492*	10·0	50·9	+0·9	30·3	0·0
	632	9·0	49·7	−0·6	30·2	−0·1
0289	492*	10·5	1. 52. 6·3	0·0	5. 26. 31·9	+0·6
	509*	10·5	6·2	−0·1	31·6	+0·3
	633	10·5	6·5	+0·3	30·4	−0·9
0290	489*	10·0	1. 52. 10·9	−0·9	6. 45. 0·3	−0·8
	507*	10·0	11·8	+0·7	2·9	+1·8
	629	10·0	11·5	+0·2	0·0	−1·1
0292	489*	10·5	1. 53. 14·9	−0·3	6. 43. 25·7	−0·9
	507*	10·5	14·9	−0·3	27·0	+0·4
	629	10·5	15·4	+0·5	27·1	+0·5
0294	488*	10·5	1. 53. 37·8	−1·1	4. 18. 55·6	+0·2
	509*	10·5	38·1	−0·8	55·8	+0·4
	682	10·5	40·4	+1·8	54·8	−0·6
0296	509*	10·5	1. 53. 53·1	−0·5	6. 2. 42·8	+0·9
	632	10·5	53·9	+0·8	41·5	−0·4
	633	10·5	53·2	−0·3	41·5	−0·4
0300	488*	10·0	1. 55. 18·4	+0·3	6. 16. 12·5	−0·1
	492*	10·0	18·2	0·0	13·7	+1·1
	632	10·5	17·9	−0·5	11·7	−0·9
0302	492*	10·5	1. 57. 4·2	0·0	6. 5. 51·2	+1·6
	507*	10·5	4·6	+0·5	49·1	−0·5
	629	10·5	3·9	−0·5	48·6	−1·0
0304	488*	10·5	1. 57. 56·5	+0·3	6. 16. 4·9	+0·7
	509*	10·5	55·5	−1·3	4·9	+0·7
	632	10·5	57·0	+1·2	2·7	−1·5
0306	488*	9·5	1. 58. 53·6	−0·5	6. 6. 26·1	+0·4
	507*	10·0	54·0	+0·2	25·2	−0·5
	629	10·0	54·2	+0·5	25·7	0·0
0307	507*	10·0	1. 59. 32·5	+1·1	5. 52. 17·1	+0·4
	509*	10·0	31·4	−0·6	17·8	+1·1
	676	10·0	31·4	−0·6	15·2	−1·5
0311	488*	10·0	2. 0. 56·1	+0·4	5. 29. 32·7	+0·8
	509*	10·0	55·4	−0·6	31·8	−0·1
	682	10·0	56·0	+0·3	31·1	−0·8
0312	492*	10·0	2. 1. 43·4	−0·2	6. 37. 17·9	+1·6
	632	10·0	43·2	−0·5	15·7	−0·6
	682	10·0	43·9	+0·7	15·4	−0·9
0313	507*	10·0	2. 2. 4·0	−0·1	5. 26. 23·9	+0·9
	633	10·0	4·4	+0·4	23·2	+0·2
	669	10·5	4·0	−0·1	22·0	−1·0
0314	492*	10·5	2. 2. 8·1	−0·1	5. 36. 25·9	+1·0
	633	9·0	7·0	−1·8	24·6	−0·3
	656	9·5	9·5	+1·9	24·2	−0·7
0316	507*	9·0	2. 3. 4·6	+0·2	6. 59. 39·8	0·0
	629	10·0	4·8	+0·6	40·1	+0·3
	676	10·0	4·0	−0·9	39·4	−0·4
0318	488*	10·5	2. 3. 50·7	0·0	5. 29. 43·9	+0·5
	509*	10·5	50·4	−0·4	45·3	+1·9
	656	10·5	51·0	+0·4	41·1	−2·3
0326	492*	10·5	2. 9. 57·2	+1·1	6. 3. 22·6	+1·1
	629	10·0	55·8	−1·1	21·2	−0·3
	632	10·5	56·4	−0·2	20·8	−0·7
0328	488*	9·5	2. 11. 27·4	+1·3	5. 35. 16·7	−0·5
	492*	10·0	27·4	+1·3	19·4	+2·2
	639	10·0	24·7	−2·6	15·5	−1·7
0332	492*	8·0	2. 13. 15·7	0·0	6. 48. 61·2	+1·3
	509*	8·0	16·2	+0·9	60·4	+0·5
	639	9·0	15·2	−0·9	58·1	−1·8
0335	488*	10·5	2. 13. 51·2	+0·6	5. 20. 60·7	+0·6
	509*	10·5	50·0	−1·1	59·9	−0·2
	632	10·0	51·3	+0·7	59·7	−0·4
0337	492*	9·0	2. 14. 9·2	+0·3	4. 50. 28·0	+1·7
	507*	9·5	9·6	+0·8	26·5	+0·2
	630	9·5	8·3	−0·9	24·3	−2·0
0341	656	10·5	2. 15. 14·6	−0·4	6. 39. 39·2	−0·9
	669	10·5	14·4	−0·7	39·3	−0·8
	676	10·5	15·4	+1·1	41·8	+1·7
0342	492*	10·0	2. 15. 35·2	−1·5	6. 21. 46·7	+1·5
	656	10·0	36·0	−0·2	44·2	−1·0
	676	10·0	37·0	+1·5	44·7	−0·5
0343	489*	10·0	2. 15. 54·0	+0·4	5. 5. 47·2	−0·4
	507*	10·0	54·0	+0·4	48·7	+1·1
	669	10·5	53·0	−0·9	47·0	−0·6
0350	488*	10·5	2. 19. 13·5	+0·2	6. 1. 50·8	+0·2
	507*	10·5	14·1	+1·1	50·6	0·0
	509*	10·5	12·7	−1·1	50·4	−0·2
0354	489*	10·0	2. 20. 51·6	+0·2	7. 0. 61·3	+1·5
	507*	10·0	51·4	−0·2	59·5	−0·3
	632	10·0	51·4	−0·2	58·7	−1·1
0357	488*	9·5	2. 22. 1·7	+0·7	4. 22. 11·6	+0·7
	489*	10·0	1·5	+0·5	10·9	0·0
	639	10·0	0·0	−1·3	10·1	−0·8
0361	488*	10·5	2. 23. 23·1	+0·1	4. 8. 39·4	+0·8
	509*	10·5	22·4	−0·7	39·1	+0·5
	632	10·5	23·6	+0·7	37·3	−1·3
0363	489*	9·0	2. 23. 39·4	+0·4	6. 45. 12·9	+0·5
	507*	9·5	39·4	+0·4	12·6	+0·2
	509*	9·0	38·7	−0·9	11·7	−0·7
0371	488*	9·5	2. 28. 37·2	+0·6	5. 26. 6·8	+0·7
	509*	9·5	36·8	0·0	6·7	+0·6
	639	10·0	36·4	−0·6	4·9	−1·2
0374	489*	10·0	2. 29. 27·9	+0·8	4. 44. 48·2	+1·0
	632	10·0	26·8	−0·6	46·4	−0·8
	703	9·5	27·1	−0·2	46·9	−0·3
0376	509*	10·5	2. 30. 38·0	−0·7	4. 21. 42·9	−0·1
	669	10·5	38·6	0·0	42·4	−0·6
	682	10·5	39·1	+0·6	43·7	+0·7
0377	489*	10·0	2. 30. 54·6	+0·2	4. 44. 10·6	+0·3
	632	10·0	54·6	+0·2	9·8	−0·5
	703	9·5	53·9	−0·6	10·4	+0·1
0378	669	10·5	2. 31. 25·0	+0·9	5. 57. 28·1	−0·4
	682	10·5	23·5	−1·4	29·6	+1·1
	693	10·5	24·6	+0·3	27·9	−0·6
0382	632	10·0	2. 32. 16·9	−0·3	6. 11. 15·6	+0·2
	639	10·0	16·8	−0·5	15·2	−0·2
	683	10·0	17·5	+0·7	15·5	+0·1
0383	669	10·5	2. 32. 22·3	+0·2	5. 56. 6·0	+0·1
	682	10·5	20·8	−2·2	6·0	+0·1
	683	10·5	23·4	+1·9	5·8	−0·1
0391	489*	10·5	2. 34. 40·6	+0·3	6. 12. 43·8	+0·4
	639	10·5	39·6	−1·3	43·2	−0·2
	669	10·5	40·9	+0·8	43·1	−0·3
0395	669	10·5	2. 35. 47·2	+0·6	4. 20. 55·8	−1·1
	682	10·5	44·9	−2·1	56·8	−0·1
	693	10·5	48·0	+1·5	58·2	+1·3
0398	639	10·0	2. 36. 40·1	−0·8	5. 57. 28·3	−0·7
	683	9·5	40·8	+0·3	29·5	+0·5
	693	10·0	40·9	+0·5	29·2	+0·2
0399	632	10·5	2. 37. 38·9	−0·4	7. 0. 17·7	0·0
	682	10·5	39·0	−0·2	18·2	+0·5
	683	10·5	39·3	+0·4	17·1	−0·6
0400	669	10·5	2. 37. 51·7	0·0	6. 49. 26·1	+0·5
	682	10·5	52·1	+0·7	24·2	−1·4
	698	10·0	51·2	−0·9	26·5	+0·9
0402	489*	10·5	2. 39. 49·1	+0·2	6. 36. 29·4	−0·1
	669	10·5	49·0	0·0	28·5	−1·0
	693	10·5	49·0	0·0	30·5	+1·0
0405	632	10·5	2. 40. 43·6	−0·7	6. 47. 54·2	−0·7
	656	10·5	43·9	−0·2	54·9	0·0
	683	10·5	44·5	+0·9	55·6	+0·7
0407	489*	10·0	2. 41. 50·6	+0·6	5. 58. 22·4	+1·9
	639	10·0	48·2	−3·1	19·9	−0·6
	682	10·0	51·9	+2·7	19·2	−1·3
0411	489*	10·0	2. 42. 60·7	+1·6	6. 43. 61·5	+0·9
	639	10·0	59·6	−0·4	59·1	−1·5
	676	10·0	59·1	−1·2	61·1	+0·5
0414	632	10·0	2. 43. 36·7	+0·2	6. 50. 54·4	0·0
	656	10·5	36·7	+0·2	55·0	+0·6
	669	10·0	36·3	−0·5	53·7	+0·7
0415	632	10·5	2. 45. 1·1	+0·3	6. 32. 29·6	−0·7
	669	10·5	0·9	0·0	30·7	+0·4
	698	10·5	0·7	−0·3	30·5	+0·2
0416	488*	10·0	2. 45. 15·3	0·0	6. 59. 44·8	+1·2
	489*	10·5	15·4	+0·2	43·6	0·0
	639	10·0	15·1	−0·4	42·3	−1·3
0419	656	10·5	2. 46. 27·5	−0·2	5. 42. 52·9	−0·8
	693	10·5	27·9	+0·5	54·4	+0·7
	703	10·5	27·3	−0·5	53·9	+0·2
0420	632	10·5	2. 46. 34·6	+1·0	6. 32. 20·6	−0·7
	669	10·5	33·8	−0·3	21·6	+0·6
	698	10·5	33·6	−0·7	21·5	+0·2
0422	656	9·5	2. 46. 42·8	+0·5	5. 43. 28·5	−0·6
	693	9·5	42·1	−0·6	29·3	+0·2
	705	9·0	42·6	+0·2	29·6	+0·5

0314. The estimated magnitudes differ more than usual.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	"	° ′ "	"
0424	639	10·5	2. 47. 39·6	−0·6	6. 6. 39·4	−0·2
	703	10·0	40·5	+0·8	39·4	−0·2
	716	10·0	39·9	−0·2	39·9	+0·3
0425	656	10·5	2. 47. 57·7	0·0	5. 6. 43·2	+0·3
	698	10·5	57·8	+0·1	42·5	−0·4
	704	10·5	57·5	−0·3	43·1	+0·2
0426	489*	9·5	2. 48. 13·6	+0·4	5. 34. 58·6	0·0
	704	9·0	13·5	+0·3	59·1	+0·5
	716	9·5	12·8	−0·7	58·0	−0·6
0427	488*	9·5	2. 48. 37·6	−0·2	6. 59. 50·9	+1·4
	698	9·5	37·7	0·0	48·6	−0·9
	705	9·5	37·7	0·0	49·0	−0·5
0431	656	10·5	2. 50. 52·7	+0·1	5. 35. 21·3	−0·1
	693	11·0	52·9	+0·4	21·1	−0·3
	698	10·5	52·3	−0·4	21·8	+0·4
0432	669	10·5	2. 51. 7·1	−0·9	4. 53. 11·5	+0·7
	693	10·5	8·2	+0·5	10·9	+0·1
	703	10·5	8·2	+0·5	10·1	−0·7
0433	488*	10·5	2. 51. 49·8	+0·2	6. 52. 31·4	+0·9
	703	10·0	50·2	+0·9	29·8	−0·7
	704	10·0	49·2	−0·9	30·2	−0·3
0434	489*	10·5	2. 52. 8·2	−1·3	5. 34. 33·4	+1·1
	656	10·0	9·8	+1·0	31·5	−0·8
	693	10·5	9·4	+0·4	32·0	−0·3
0435	488*	9·5	2. 52. 16·4	+0·3	4. 8. 10·1	+0·2
	639	10·0	15·5	−0·7	9·3	−0·6
	705	9·5	16·4	+0·3	10·3	+0·4
0436	669	10·5	2. 52. 24·6	+1·0	6. 8. 35·2	+0·4
	698	10·5	23·9	−0·2	34·2	−0·6
	704	10·5	23·5	−0·8	35·0	+0·2
0439	489*	10·5	2. 53. 33·7	+0·6	5. 52. 42·6	+1·0
	669	10·5	34·1	+1·2	41·4	−0·2
	676	10·5	32·1	−1·7	40·7	−0·9
0441	632	10·0	2. 53. 44·1	+1·5	4. 48. 47·8	0·0
	639	10·0	41·6	−1·6	48·0	+0·2
	704	10·0	42·9	0·0	47·7	−0·1
0447	488*	10·0	2. 58. 6·9	+0·7	5. 22. 16·2	+0·5
	632	10·0	7·2	+1·1	15·5	−0·2
	682	10·0	5·0	−2·0	15·4	−0·3
0449	488*	10·5	2. 58. 34·1	+0·8	5. 4. 35·3	+1·3
	489*	10·5	32·7	−1·1	34·3	+0·3
	669	10·5	33·8	+0·4	32·5	−1·5
0451	489*	6·0	2. 58. 48·1	+0·6	5. 36. 55·4	+1·4
	639	6·0	47·7	0·0	52·5	−1·5
	682	7·0	47·3	−0·6	54·2	+0·2
0454	489*	10·0	2. 59. 26·5	+0·3	5. 54. 57·0	+0·4
	656	10·0	25·9	−0·6	56·1	−0·5
	682	10·0	26·4	+0·2	56·6	0·0
0456	488*	8·0	2. 59. 52·3	+1·3	7. 0. 27·2	+0·8
	639	9·0	50·5	−1·9	25·1	−1·3
	683	9·0	51·9	+0·6	27·0	+0·6
0457	656	10·0	2. 59. 57·6	−0·7	6. 29. 12·9	+0·5
	669	10·5	58·2	+0·3	12·7	+0·3
	683	10·0	58·3	+0·5	11·7	−0·7
0458	656	9·5	3. 0. 5·6	−0·5	6. 29. 32·5	0·0
	669	10·0	6·3	+0·7	32·6	+0·1
	683	9·5	5·9	0·0	32·5	0·0
0462	488*	10·0	3. 4. 56·4	−0·3	5. 35. 34·4	+0·4
	656	10·0	57·2	+0·9	33·5	−0·5
	682	10·0	56·2	−0·6	34·1	+0·1
0463	488*	10·5	3. 4. 59·5	0·0	4. 37. 47·2	+0·3
	489*	10·5	59·0	−0·9	47·7	+0·8
	669	10·5	60·1	+1·0	45·9	−1·0
0464	489*	10·0	3. 5. 40·9	+1·1	6. 3. 52·9	+1·4
	669	10·0	40·5	+0·5	51·2	−0·3
	682	10·5	39·2	−1·6	50·3	−1·2
0466	693	10·5	3. 7. 26·4	+0·2	6. 40. 53·6	0·0
	698	10·5	26·4	+0·2	53·5	−0·1
	703	10·5	26·2	−0·2	53·6	0·0
0468	656	10·5	3. 7. 39·5	−0·5	6. 39. 18·5	−0·1
	683	10·5	39·7	−0·2	18·3	−0·3
	693	10·5	40·3	+0·9	19·0	+0·4
0471	405	10·0	3. 8. 55·1	−0·6	4. 13. 17·3	+0·7
	488*	10·0	54·9	−0·8	17·4	+0·8
	683	10·0	56·8	+1·3	15·0	−1·6
0476	488*	10·5	3. 11. 56·6	−0·7	5. 17. 39·7	+2·1
	656	10·5	57·3	+0·3	36·1	−1·5
	669	10·5	57·4	+0·4	37·1	−0·5
0489	393	10·0	3. 18. 53·1	−0·7	5. 12. 58·0	−1·7
	405	10·0	54·5	+1·2	60·2	+0·5
	488*	10·0	53·3	−0·4	60·9	+1·2
0496	405	9·5	3. 21. 33·9	+0·3	5. 38. 50·9	+0·6
	489*	9·5	33·9	+0·3	49·9	−0·4
	669	9·5	33·2	−0·7	50·2	−0·1
0499	488*	10·5	3. 22. 19·8	−1·0	6. 12. 23·0	+1·9
	656	10·5	20·3	−0·2	19·8	−1·3
	669	10·5	21·1	+1·1	20·5	−0·6
0502	489*	10·5	3. 24. 18·0	0·0	6. 53. 48·8	+1·5
	656	10·5	18·5	+0·9	47·0	−0·3
	682	10·5	17·6	−0·7	46·0	−1·3
0503	489*	9·0	3. 24. 47·5	−0·2	6. 55. 7·0	+0·4
	656	9·0	47·6	0·0	7·1	+0·5
	682	9·0	47·6	0·0	5·8	−0·8
0504	405	10·0	3. 24. 48·1	+0·9	5. 59. 38·3	+0·9
	669	10·0	47·5	0·0	37·6	+0·2
	683	10·0	46·9	−0·9	36·3	−1·1
0505	393	9·5	3. 26. 27·0	+0·3	4. 49. 20·6	−0·6
	405	9·5	26·7	−0·1	22·0	+0·8
	698	9·5	26·7	−0·1	20·9	−0·3
0508	489*	10·5	3. 27. 57·8	+0·9	6. 57. 11·0	−0·2
	669	10·5	57·1	−0·4	11·7	+0·5
	693	10·5	56·9	−0·7	10·9	−0·3
0509	405	9·0	3. 28. 9·6	+1·7	5. 46. 56·0	+0·7
	656	9·5	8·6	+0·2	55·2	−0·1
	682	9·5	7·2	−2·0	54·6	−0·7
0512	405	10·5	3. 28. 59·3	+0·8	5. 45. 17·2	+1·1
	656	10·5	59·4	+0·9	15·7	−0·4
	682	10·5	57·7	−1·7	15·3	−0·8
0517	669	10·5	3. 29. 54·8	−0·1	5. 40. 3·3	+0·7
	693	10·5	55·6	+1·0	2·1	−0·5
	698	10·5	54·4	−0·7	2·3	−0·3
0518	489*	10·0	3. 29. 59·3	+0·4	5. 15. 26·3	+0·4
	683	10·0	59·1	+0·1	25·9	0·0
	698	9·5	58·6	−0·6	25·4	−0·5
0522	405	10·5	3. 30. 43·7	−0·5	5. 10. 13·7	−0·7
	683	10·5	43·8	−0·4	14·3	−0·1
	693	10·5	44·7	+0·8	15·1	+0·7
0525	393	10·5	3. 32. 40·8	+0·1	5. 23. 54·3	−1·3
	669	10·5	40·6	−0·1	56·1	+0·5
	683	10·0	40·6	−0·1	56·4	+0·8
0530	488*	10·0	3. 33. 56·4	+0·5	6. 52. 50·5	+0·6
	489*	10·5	56·0	−0·2	50·2	+0·3
	682	10·0	55·8	−0·5	48·9	−1·0
0531	488*	10·5	3. 34. 15·9	−1·2	6. 45. 12·6	+1·3
	669	10·5	16·7	+0·2	10·1	−1·2
	682	10·5	17·2	+1·0	11·1	−0·2
0532	489*	10·0	3. 34. 19·9	−0·5	6. 19. 56·6	+0·6
	543*	9·0	20·8	+1·0	56·1	+0·1
	545*	9·5	20·0	−0·3	55·3	−0·7
0544	488*	10·5	3. 38. 25·8	−0·7	5. 8. 36·2	0·0
	669	11·0	27·2	+1·2	35·1	−1·1
	676	10·5	25·9	−0·5	37·2	+1·0
0546	405	10·5	3. 38. 57·1	+1·6	4. 20. 40·3	−0·8
	488*	10·0	54·6	−1·3	42·0	+0·9
	545*	10·5	55·3	−0·5	41·1	0·0
0551	488*	10·5	3. 42. 37·0	−1·5	5. 3. 36·8	+1·6
	489*	10·5	39·1	+1·3	35·5	+0·3
	669	10·5	38·1	0·0	33·4	−1·8
0554	488*	10·0	3. 44. 38·7	−0·5	6. 46. 44·0	+0·8
	489*	10·0	39·3	+0·5	42·9	−0·3
	543*	10·0	39·0	0·0	42·8	−0·4
0560	405	10·5	3. 46. 1·4	0·0	6. 13. 24·7	−0·2
	489*	10·5	1·5	+0·2	24·8	−0·1
	545*	10·5	1·2	−0·3	25·2	+0·3
0561	409	10·5	3. 46. 29·1	−0·4	6. 58. 16·7	−1·2
	488*	10·5	29·5	+0·4	19·1	+1·2
	543*	10·5	29·2	−0·2	17·8	−0·1
0565	406	9·5	3. 48. 0·3	−0·7	6. 29. 23·5	−0·7
	409	9·5	0·3	−0·7	23·8	−0·4
	541*	9·5	1·6	+1·5	25·2	+1·0
0569	488*	10·5	3. 51. 8·4	+1·4	6. 50. 4·3	+0·8
	489*	10·5	6·6	−1·8	2·8	−0·7
	545*	10·5	7·8	+0·4	3·4	−0·1
0571	405	9·0	3. 51. 14·0	+0·5	6. 17. 49·6	−1·0
	489*	9·0	13·3	−0·7	51·1	+0·5
	543*	9·5	13·7	0·0	51·0	+0·4
0572	393	10·0	3. 51. 14·3	0·0	4. 29. 34·4	+0·1
	405	9·5	13·9	−0·5	34·6	+0·3
	410	10·0	14·6	+0·4	34·0	−0·3
0573	409	9·5	3. 51. 18·4	0·0	6. 54. 58·0	−1·1
	488*	10·0	18·8	+0·7	60·3	+1·2
	545*	10·0	17·9	−0·9	59·1	0·0

0499. N. f. of 2 stars of equal magnitude.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0580	405	6·0	3. 55. 4·7	+1·1	6. 33. 38·1	−0·5
	409	6·0	4·1	0·0	37·6	−1·0
	489*	6·0	3·6	−0·9	40·0	+1·4
0582	488*	10·5	3. 55. 20·9	0·0	6. 38. 44·7	+0·8
	492*	10·5	20·0	−1·6	44·3	+0·4
	543*	10·5	21·7	+1·4	42·7	−1·2
0586	488*	10·0	3. 56. 1·0	−1·6	6. 40. 24·7	+0·1
	541*	10·0	2·1	+0·4	24·8	+0·2
	543*	10·0	2·7	+1·4	24·4	−0·2
0587	406	10·0	3. 56. 36·4	+0·5	6. 32. 56·3	−1·1
	409	9·0	35·6	−0·9	56·6	−0·8
	489*	10·5	36·4	+0·5	59·3	+1·9
0588	393	10·5	3. 56. 48·8	+0·2	5. 46. 19·8	+2·0
	545*	10·5	48·1	−0·9	16·3	−1·5
	669	10·5	49·3	+0·9	17·4	−0·4
0589	409	10·5	3. 57. 10·6	−0·7	6. 31. 11·9	−1·1
	489*	10·5	11·4	+0·7	12·5	−0·5
	669	10·5	11·1	+0·2	14·7	+1·7
0590	492*	10·5	3. 57. 18·1	−0·6	6. 59. 8·2	−0·3
	541*	10·0	18·7	+0·6	8·3	−0·2
	545*	10·0	18·5	+0·2	9·1	+0·6
0591	393	8·0	3. 58. 3·4	−0·5	5. 52. 47·1	−1·0
	405	8·0	3·6	−0·2	48·1	0·0
	410	8·5	4·0	+0·5	49·2	+1·1
0592	409	11·0	3. 58. 27·9	+0·7	6. 31. 29·7	+0·2
	669	10·5	27·1	−0·7	29·2	−0·3
	676	11·0	27·4	−0·2	29·6	+0·1
0593	492*	7·0	3. 58. 32·2	−0·4	7. 1. 23·4	−1·4
	543*	7·0	32·3	−0·2	25·5	+0·7
	549*	7·0	32·8	+0·7	25·4	+0·6
0594	393	10·0	3. 58. 59·1	−0·8	5. 49. 19·7	−1·4
	410	10·0	60·4	+1·2	22·4	+1·3
	549*	10·0	59·4	−0·3	21·3	+0·2
0596	406	9·5	4. 1. 5·5	−0·3	6. 10. 32·1	+0·8
	409	9·0	6·1	+0·6	30·2	−1·1
	489*	9·5	5·6	−0·2	31·7	+0·4
0597	393	10·5	4. 1. 59·0	−1·1	5. 21. 56·3	−0·1
	405	10·5	60·5	+1·0	58·4	+2·0
	410	10·5	60·0	+0·3	54·4	−2·0
0598	409	10·5	4. 2. 4·1	+1·0	6. 9. 31·1	−1·7
	489*	10·5	3·7	+0·3	33·0	+0·2
	492*	10·5	2·6	−1·5	34·2	+1·4
0603	391	9·5	4. 4. 37·2	+1·5	4. 52. 24·6	−1·7
	492*	9·5	35·3	−0·9	26·9	+0·6
	541*	9·5	35·5	−0·6	27·5	+1·2
0604	409	9·5	4. 5. 34·3	−0·4	7. 0. 18·1	−0·8
	415	9·5	34·2	−0·6	17·8	−1·1
	543*	10·0	34·9	+0·7	20·7	+1·8
0605	410	10·0	4. 5. 49·6	0·0	5. 22. 54·4	−1·0
	541*	10·0	50·3	+1·0	55·0	−0·4
	543*	10·0	48·9	−1·0	56·7	+1·3
0608	410	10·0	4. 6. 7·6	+1·1	5. 7. 28·7	−0·8
	492*	10·0	5·9	−1·2	29·9	+0·4
	543*	10·0	6·9	+0·1	30·0	+0·5
0610	410	10·0	4. 7. 28·5	+1·1	5. 18. 38·6	−0·3
	415	9·5	27·7	0·0	38·1	−0·8
	488*	10·0	27·0	−1·0	40·0	+1·1
0611	391	9·5	4. 7. 48·9	−1·0	4. 37. 52·7	−0·1
	393	9·0	49·7	0·0	52·1	−0·7
	543*	9·5	50·6	+1·1	53·5	+0·7
0618	406	8·5	4. 10. 57·7	−0·5	6. 16. 57·0	−0·4
	409	8·5	58·1	+0·2	57·0	−0·4
	413	9·0	58·1	+0·2	58·1	+0·7
0620	393	10·5	4. 11. 22·4	−1·2	4. 18. 4·2	−0·7
	405	10·5	22·8	−0·8	6·4	+1·5
	410	10·5	25·2	+1·9	4·1	−0·8
0622	391	9·5	4. 12. 47·7	+0·1	5. 40. 44·4	0·0
	393	9·5	47·2	−0·6	44·6	+0·2
	410	10·0	48·0	+0·6	44·2	−0·2
0623	409	10·0	4. 13. 6·4	−0·5	6. 22. 44·0	−0·2
	415	10·0	7·1	+0·7	43·9	−0·3
	488*	10·5	6·5	−0·3	44·7	+0·5
0624	409	10·0	4. 14. 56·1	+1·0	6. 22. 19·1	−0·4
	413	10·0	55·4	−0·2	20·3	+0·8
	415	10·0	54·9	−1·0	19·2	−0·3
0626	391	10·5	4. 15. 16·3	+0·9	5. 36. 4·2	−1·0
	393	10·5	15·1	−0·9	4·0	−1·2
	489*	10·5	15·7	0·0	7·4	+2·2
0630	409	10·5	4. 16. 42·9	−0·3	6. 24. 60·0	−0·5
	415	10·5	42·6	−0·8	59·3	−1·2
	488*	10·5	42·9	−0·3	60·6	+0·1
	489*	10·5	44·0	+1·5	61·9	+1·4
0633	409	9·0	4. 17. 42·9	−0·3	6. 32. 46·0	−0·5
	413	9·0	45·2	+0·2	46·3	−0·2
	489*	9·5	43·3	+0·3	47·2	+0·7
0634	391	10·0	4. 18. 21·1	+0·8	4. 37. 15·0	−0·8
	393	10·0	20·4	0·0	15·8	0·0
	488*	10·5	19·7	−0·8	16·7	+0·9
0637	393	—	4. 19. —	—	4. 6. —	—
	405	10·5	7·1	−1·3	14·6	−0·5
	492*	10·5	9·5	+1·3	15·5	+0·4
0641	393	10·0	4. 20. 10·6	−0·1	4. 5. 45·0	−1·4
	405	10·0	10·7	0·0	46·8	+0·4
	492*	10·0	10·7	0·0	47·3	+0·9
0642	393	10·0	4. 20. 50·5	−1·8	5. 0. 4·7	−2·4
	410	10·0	52·9	+1·3	7·1	0·0
	489*	10·0	52·3	+0·5	9·5	+2·4
0643	410	8·5	4. 21. 13·8	−0·9	5. 23. 56·2	−1·5
	488*	9·0	14·6	+0·3	58·2	+0·5
	489*	9·0	14·8	+0·6	58·6	+0·9
0645	409	10·5	4. 22. 37·5	−0·4	6. 52. 29·0	−1·3
	415	10·5	37·9	+0·4	30·3	0·0
	488*	10·5	37·7	0·0	31·6	+1·3
0647	409	9·5	4. 23. 20·6	−0·5	6. 36. 8·6	0·0
	413	9·5	21·4	+0·9	8·3	−0·3
	492*	10·0	20·6	−0·5	8·9	+0·3
0648	409	9·5	4. 24. 10·6	−1·1	6. 58. 25·2	−0·2
	415	9·0	11·0	−0·4	25·0	−0·4
	489*	9·0	11·9	+1·3	26·0	+0·6
0652	413	10·0	4. 26. 15·8	−0·9	6. 46. 26·7	0·0
	488*	10·0	15·9	−0·7	27·4	+0·7
	489*	10·5	17·1	+1·4	25·9	−0·8
0657	413	9·5	4. 27. 57·7	+0·9	6. 32. 31·2	−0·9
	415	9·5	57·3	+0·2	31·2	−0·9
	492*	9·5	56·6	−1·0	34·0	+1·9
0663	488*	10·5	4. 30. 31·8	−0·3	5. 45. 56·9	0·0
	489*	10·5	32·6	+0·9	55·7	−1·2
	492*	10·5	31·6	−0·6	58·0	+1·1
0666	405	10·5	4. 31. 19·2	+2·2	5. 19. 20·1	−1·2
	492*	10·5	16·5	−1·5	21·1	−0·2
	543*	10·5	17·1	−0·7	22·6	+1·3
0667	415	10·0	4. 31. 34·2	+0·3	6. 13. 10·4	−0·9
	543*	10·0	34·1	+0·2	11·7	+0·4
	545*	10·0	33·8	−0·3	11·9	+0·6
0669	413	9·0	4. 32. 11·0	+0·7	6. 46. 3·9	−0·9
	492*	9·0	10·1	−0·9	4·4	−0·4
	549*	9·0	10·7	+0·2	6·0	+1·2
0671	488*	10·5	4. 32. 37·5	−0·2	5. 51. 31·2	+2·4
	489*	10·5	37·7	−0·5	27·0	−1·8
	545*	10·5	37·0	+0·8	28·3	−0·5
0674	393	10·5	4. 33. 10·9	−0·4	4. 11. 0·2	−0·8
	405	10·5	11·5	+0·2	2·4	+1·4
	489*	10·5	11·5	+0·2	0·3	−0·7
0677	488*	10·5	4. 34. 17·5	−0·2	5. 50. 5·1	+0·5
	489*	10·5	18·3	+1·1	4·4	−0·2
	492*	10·5	17·1	−0·8	4·3	−0·3
0678	393	9·5	4. 34. 49·5	+0·2	5. 1. 51·9	−0·6
	405	9·5	49·8	+0·7	54·1	+1·6
	410	9·0	49·0	−0·7	51·5	−1·0
0680	409	10·0	4. 35. 24·9	−1·3	6. 51. 11·3	−0·5
	413	10·0	26·7	+2·0	12·4	+0·6
	415	10·0	25·4	−0·4	10·2	−1·6
	488*	10·0	25·2	−0·7	13·2	+1·4
0691	409	9·0	4. 39. 22·6	+0·5	6. 40. 50·6	−1·1
	413	9·5	22·4	+0·2	51·9	+0·2
	415	9·0	22·0	−0·5	52·6	+0·9
0692	393	9·5	4. 39. 24·4	−1·1	6. 0. 13·9	−0·4
	410	9·5	25·3	+0·3	13·6	−0·7
	488*	9·0	25·6	+0·8	15·3	+1·0
0693	409	10·5	4. 39. 51·2	+0·4	6. 40. 0·7	−1·0
	413	10·5	50·5	−0·9	1·7	0·0
	415	10·5	51·2	+0·4	2·7	+1·0
0694	405	10·5	4. 40. 8·9	−0·9	5. 53. 28·6	+0·7
	410	10·0	10·7	+1·9	26·5	−1·4
	488*	10·0	9·0	−0·8	28·6	+0·7
0696	492*	10·5	4. 40. 35·8	+0·8	5. 41. 17·9	−0·8
	543*	10·5	35·8	+0·8	18·4	−0·3
	549*	10·5	34·3	−1·5	19·7	+1·0
0698	393	7·0	4. 40. 60·4	+0·2	4. 14. 45·5	−1·3
	405	7·0	60·5	+0·3	47·3	+0·5
	492*	8·0	59·7	−0·6	47·7	+0·9
0703	405	10·5	4. 43. 44·5	+1·2	5. 52. 39·3	−1·2
	492*	10·5	43·4	−0·5	40·4	−0·1
	543*	10·5	43·3	−0·6	41·7	+1·2

0587. The estimated magnitudes differ more than usual.
0630 on 415. The observed R.A. has been increased by 10ˢ, and the N.P.D. by 5′.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0704	393	9·0	4. 45. 7·5	−0·2	4. 27. 43·7	−0·7
	410	9·0	9·2	+1·8	43·8	−0·6
	549*	9·5	6·4	−1·5	45·6	+1·2
0705	393	10·0	4. 45. 31·8	0·0	5. 19. 5·0	−0·1
	410	9·5	32·3	+0·7	3·1	−2·0
	543*	10·0	31·2	−0·8	7·2	+2·1
0706	409	10·0	4. 45. 33·7	−0·3	6. 37. 7·1	−0·5
	413	10·0	34·1	+0·3	8·4	+0·8
	415	10·0	33·9	0·0	7·4	−0·2
0709	405	10·0	4. 45. 55·4	+1·6	5. 53. 16·5	−1·2
	492*	10·5	53·9	−0·8	17·4	−0·3
	543*	10·5	54·0	−0·6	19·1	+1·4
0714	405	10·5	4. 48. 36·3	+1·6	5. 37. 33·1	−1·5
	410	10·0	35·1	−0·1	34·7	+0·1
	549*	10·0	34·2	−1·5	35·9	+1·3
0715	492*	10·5	4. 48. 44·8	−1·1	5. 44. 20·0	−0·3
	543*	10·5	46·0	+0·8	22·2	+1·9
	549*	10·5	45·7	+0·3	18·8	−1·5
0716	409	10·0	4. 49. 3·7	+0·9	6. 0. 24·0	−0·2
	424	10·0	4·0	+1·4	23·5	−0·7
	550*	10·0	1·7	−2·2	25·2	+1·0
0717	413	10·5	4. 49. 30·8	+0·9	6. 39. 30·5	−0·7
	415	10·5	30·0	−0·5	31·4	+0·2
	551*	10·0	30·1	−0·4	31·6	+0·4
0719	409	10·5	4. 49. 58·7	−1·3	6. 18. 43·5	−1·8
	492*	10·5	60·0	+0·8	46·6	+1·3
	543*	10·5	59·8	+0·5	45·8	+0·5
0721	409	10·0	4. 51. 11·7	−1·0	6. 37. 28·8	−0·6
	413	10·5	13·3	+1·7	30·3	+0·9
	415	10·0	11·9	−0·7	29·2	−0·2
0724	393	10·0	4. 52. 19·8	+0·3	4. 54. 12·0	+0·4
	405	10·0	18·7	−1·4	11·9	+0·3
	410	10·0	20·2	+0·9	10·9	−0·7
0725	409	9·5	4. 53. 50·3	−0·2	6. 20. 36·5	−0·3
	418	9·0	50·6	+0·3	36·5	−0·3
	424	9·5	50·4	0·0	37·4	+0·6
0726	409	10·0	4. 54. 11·0	+0·5	6. 11. 23·2	−1·4
	424	9·5	11·2	+0·8	24·3	−0·3
	492*	10·0	9·9	−1·3	26·4	+1·8
0727	393	8·0	4. 55. 4·4	−0·7	4. 28. 27·3	−0·6
	405	8·0	5·4	+0·5	27·7	−0·2
	410	8·0	5·1	+0·1	28·6	+0·7
0728	405	11·0	4. 57. 10·4	−0·9	5. 48. 41·6	−0·7
	410	10·5	11·1	+0·2	41·8	−0·5
	418	10·0	11·6	+0·9	43·6	+1·3
0729	393	10·5	4. 57. 46·5	+0·9	5. 4. 12·8	−0·7
	424	10·5	46·0	+0·3	14·1	+0·6
	492*	10·5	45·0	−1·1	13·6	+0·1
0732	409	10·0	4. 58. 19·5	−0·5	6. 44. 58·7	−0·4
	413	9·5	20·1	+0·5	59·3	+0·2
	415	9·5	19·8	0·0	59·3	+0·2
0735	393	10·0	4. 59. 5·7	−0·3	5. 55. 36·1	+0·1
	405	10·0	5·3	+0·3	35·6	−0·4
	410	10·0	5·6	+0·2	36·7	+0·7
	418	10·0	5·5	0·0	35·5	−0·5
0736	413	10·0	4. 59. 19·0	+0·9	6. 43. 55·0	+1·0
	415	10·5	18·9	+0·7	53·3	−0·7
	492*	10·5	17·6	−1·6	53·7	−0·3
0738	415	8·5	5. 0. 36·4	+0·2	6. 16. 53·6	−0·5
	418	9·0	36·2	−0·2	54·3	+0·2
	424	8·0	36·4	+0·2	54·5	+0·4
0747	411	10·0	5. 4. 22·1	+1·4	6. 46. 41·0	+0·3
	413	9·0	20·8	−0·9	41·2	+0·5
	424	9·5	21·1	−0·4	39·9	−0·8
0748	405	9·5	5. 4. 41·3	−0·5	5. 48. 58·7	+0·6
	410	9·0	42·1	+0·8	58·1	0·0
	418	9·0	41·5	−0·2	57·4	−0·7
0751	415	9·5	5. 5. 55·5	+0·4	6. 59. 19·6	−1·3
	424	9·5	55·1	−0·4	20·8	−0·1
	492*	10·0	55·4	+0·2	22·4	+1·5
0755	411	10·5	5. 8. 49·3	−0·5	6. 41. 38·7	−1·1
	415	10·0	49·8	+0·4	39·8	0·0
	418	10·0	49·8	+0·4	40·8	+1·0
0759	405	10·5	5. 10. 17·7	−0·7	4. 3. 59·0	+0·5
	410	10·5	18·0	−0·4	58·6	+0·1
	418	10·5	19·5	+1·2	57·8	−0·7
0765	413	10·5	5. 12. 53·5	+0·9	6. 50. 47·2	+2·0
	415	10·5	53·0	0·0	43·4	−1·8
	424	10·5	52·6	−0·7	45·1	−0·1
0767	405	10·5	5. 13. 18·0	0·0	5. 57. 34·8	+0·7
	410	10·5	17·4	−0·9	33·5	−0·6
	424	10·5	18·7	+1·1	33·9	−0·2

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0771	410	10·5	5. 16. 38·1	−0·3	5. 57. 7·0	+0·7
	418	10·5	38·7	+0·6	4·6	−1·7
	424	10·5	38·1	−0·3	7·3	+1·0
0775	411	10·0	5. 18. 53·6	−0·5	6. 47. 47·0	+0·8
	413	10·0	53·3	−1·1	46·2	0·0
	426	10·0	54·7	+1·4	45·5	−0·7
0776	418	9·0	5. 19. 15·3	0·0	6. 28. 8·2	−0·4
	424	9·0	15·6	+0·5	8·3	−0·3
	430	8·0	15·1	−0·3	9·2	+0·6
0777	413	10·5	5. 19. 16·7	+0·7	6. 40. 3·0	0·0
	492*	10·5	16·0	−0·5	2·7	−0·3
	549*	10·5	16·1	−0·4	3·3	+0·3
0779	411	10·0	5. 19. 34·6	−1·8	6. 56. 58·8	−1·2
	492*	10·5	36·8	+2·2	60·1	+0·1
	543*	10·0	35·3	−0·6	61·2	+1·2
0780	410	10·5	5. 20. 13·6	−0·6	5. 57. 41·9	−0·6
	418	10·5	14·8	+1·3	43·1	+0·6
	424	10·5	13·7	−0·5	42·6	+0·1
0782	405	8·0	5. 20. 25·0	+0·8	4. 46. 25·1	+0·8
	410	8·5	23·4	−1·3	23·6	−0·7
	424	8·0	24·9	+0·6	24·3	0·0
0784	405	9·5	5. 23. 22·4	−1·0	5. 13. 5·5	+0·2
	426	9·5	23·3	+0·3	4·7	−0·6
	430	9·5	23·5	+0·5	5·7	+0·4
0785	411	10·0	5. 23. 24·3	−0·7	6. 21. 41·1	+0·3
	413	10·0	25·1	+0·7	40·4	−0·4
	415	10·0	24·4	−0·5	41·2	+0·4
	426	10·0	25·1	+0·7	40·5	−0·3
0787	405	10·0	5. 23. 60·1	+0·6	4. 25. 36·8	+0·3
	410	10·0	58·2	−1·6	35·8	−0·7
	418	10·0	60·5	+1·0	36·9	+0·4
0788	418	10·0	5. 24. 39·4	−0·8	4. 4. 0·0	−0·6
	424	10·5	40·3	+0·1	0·6	0·0
	426	10·0	40·8	+0·6	1·2	+0·6
0794	410	10·5	5. 27. 50·5	+0·4	5. 5. 15·5	−1·7
	424	10·5	49·9	−0·4	16·6	−0·6
	543*	10·5	50·2	0·0	19·4	+2·2
0795	410	10·0	5. 28. 2·0	−2·2	4. 59. 13·3	−0·8
	418	10·5	4·6	+1·2	14·2	+0·1
	424	10·0	4·4	+0·9	14·8	+0·7
0796	411	10·5	5. 28. 23·7	0·0	6. 33. 56·1	−1·1
	426	10·5	23·9	+0·3	56·5	−0·7
	543*	10·5	23·5	−0·3	59·0	+1·8
0799	405	10·0	5. 29. 59·6	+1·1	5. 2. 51·3	+0·7
	410	9·5	58·4	−0·5	49·7	−0·9
	418	10·0	58·3	−0·7	50·8	+0·2
0801	411	10·0	5. 30. 32·0	−1·2	6. 25. 50·1	−0·1
	424	10·5	32·7	0·0	49·9	−0·3
	426	10·0	33·3	+1·0	50·7	+0·5
0806	374	10·0	5. 32. 30·2	−0·5	4. 44. 38·1	−1·0
	410	10·0	30·7	+0·1	39·5	+0·4
	418	10·0	30·9	+0·4	39·8	+0·7
0808	424	10·5	5. 32. 46·6	−0·3	4. 18. 45·3	−1·0
	426	10·5	48·7	+2·0	45·7	−0·6
	543*	10·5	45·5	−1·6	47·9	+1·6
0809	374	10·5	5. 33. 12·2	−0·7	5. 39. 29·6	−1·7
	426	10·0	12·6	−0·1	31·9	+0·6
	431	10·5	13·2	+0·7	32·5	+1·2
0810	410	10·0	5. 33. 35·0	−0·6	4. 53. 48·6	−1·0
	418	9·5	35·6	+0·1	50·0	+0·4
	430	10·0	36·0	+0·6	50·3	+0·7
0812	411	9·0	5. 34. 21·5	−0·3	5. 55. 30·7	+0·1
	415	9·5	21·8	+0·2	30·5	−0·1
	430	9·5	21·8	+0·2	30·7	+0·1
0815	418	10·5	5. 35. 43·1	+0·9	5. 30. 7·3	+0·3
	424	10·5	42·9	+0·6	7·2	+0·2
	430	10·5	41·6	−1·3	6·6	−0·4
0816	374	10·0	5. 36. 4·2	−0·2	5. 58. 5·6	+0·2
	411	9·5	4·2	−0·2	4·7	−0·7
	426	10·0	4·5	+0·3	5·9	+0·5
0821	374	9·5	5. 37. 13·4	+0·3	5. 53. 32·0	−0·5
	411	9·0	12·5	−1·1	33·1	+0·6
	415	9·5	13·6	+0·6	32·4	−0·1
0826	374	9·5	5. 41. 39·0	0·0	5. 48. 54·9	−0·5
	411	9·0	39·0	0·0	55·3	−0·1
	418	9·5	39·0	0·0	56·1	+0·7
0827	413	10·5	5. 41. 55·8	−0·8	6. 20. 45·5	−0·5
	415	10·5	55·9	−0·7	45·5	−0·5
	426	11·0	58·0	+2·8	48·1	+2·1
0832	374	10·5	5. 43. 21·3	+1·1	4. 41. 12·2	−2·5
	410	10·5	20·2	−0·3	16·1	+1·4
	418	10·5	20·3	−0·1	15·0	+0·3
	424	10·5	19·8	−0·7	15·4	+0·7

0827 on 426. Seen with difficulty. Half weight.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
0836	411	10·0	5. 44. 29·1	−0·5	6. 42. 11·3	−0·1
	413	10·0	29·5	+0·2	12·2	+0·8
	426	10·0	29·7	+0·5	10·8	−0·6
0839	374	10·5	5. 47. 26·8	+0·7	5. 11. 12·1	−1·2
	424	10·5	26·1	−0·3	14·3	+1·0
	426	10·5	26·1	−0·3	13·6	+0·3
0840	411	10·0	5. 47. 52·5	−0·9	6. 40. 8·6	−0·2
	413	10·0	52·5	−0·9	8·8	0·0
	426	10·0	54·0	+1·8	9·0	+0·2
0848	374	10·0	5. 50. 3·1	+0·2	4. 36. 12·3	+0·7
	418	10·5	2·7	−0·2	11·7	+0·1
	426	10·0	3·0	+0·1	10·9	−0·7
0849	411	9·5	5. 50. 14·5	+0·9	6. 52. 59·8	−0·1
	424	10·0	14·4	+0·7	60·4	+0·5
	426	10·0	13·0	−1·8	59·4	−0·5
0850	411	10·5	5. 51. 20·2	+0·5	6. 47. 21·5	+0·6
	413	10·5	20·1	+0·4	20·4	−0·5
	430	10·5	19·5	−0·7	20·9	0·0
0852	411	10·0	5. 53. 52·1	+0·8	6. 13. 42·7	0·0
	415	10·0	50·5	−1·8	44·5	+1·8
	426	10·0	52·1	+0·8	40·9	−1·8
0855	411	10·5	5. 54. 24·1	0·0	6. 54. 15·1	+1·3
	413	10·5	23·5	−1·1	13·4	−0·4
	430	10·5	24·6	+0·9	13·0	−0·8
0856	374	10·0	5. 54. 25·8	+0·5	4. 46. 20·6	−1·6
	418	10·0	24·8	−0·8	22·4	+0·2
	424	10·0	25·5	+0·1	23·5	+1·3
0859	418	10·5	5. 55. 22·6	−1·2	5. 36. 43·3	+0·3
	426	10·5	24·4	+1·5	42·8	−0·2
	430	10·5	23·2	−0·3	42·9	−0·1
0863	374	10·5	5. 57. 12·5	+0·7	5. 26. 48·6	+0·3
	430	10·5	10·4	−2·3	47·7	−0·6
	431	10·5	13·1	+1·6	48·6	+0·3
0866	411	10·0	5. 58. 5·0	−0·2	6. 10. 34·1	−0·8
	415	9·5	5·0	−0·2	35·7	+0·8
	424	10·0	5·2	+0·2	34·8	−0·1
0867	418	10·0	5. 58. 17·7	+0·1	4. 54. 21·6	+1·2
	431	10·0	17·1	−0·6	18·8	−1·6
	549*	10·5	18·1	+0·6	20·8	+0·4
0868	418	10·5	5. 58. 17·9	−2·2	5. 38. 45·5	−1·0
	426	10·5	20·5	+1·6	46·5	0·0
	430	10·5	19·8	+0·6	47·5	+1·0
0872	413	10·5	6. 0. 4·0	−0·6	5. 59. 5·6	−0·5
	415	10·5	4·5	+0·2	5·7	−0·4
	543*	10·5	4·8	+0·6	7·0	+0·9
0873	426	10·5	6. 0. 13·8	+1·0	5. 35. 3·2	−0·3
	430	10·5	13·0	−0·1	2·4	−1·1
	550*	10·5	12·5	−0·9	4·8	+1·3
0875	374	10·5	6. 0. 13·9	−1·1	5. 24. 61·5	+1·7
	543*	10·5	14·0	−1·0	59·3	−0·5
	550*	10·5	16·3	+2·3	58·6	−1·2
0876	374	9·5	6. 1. 19·2	+0·9	4. 53. 19·4	−1·3
	418	9·5	18·0	−0·6	22·3	+1·6
	424	9·5	18·4	−0·1	20·5	−0·2
0882	415	10·5	6. 4. 29·8	−1·8	6. 49. 34·4	−0·8
	426	10·5	31·2	+0·7	37·0	+1·8
	430	10·5	31·4	+1·1	34·3	−0·9
0885	413	10·0	6. 4. 50·7	+0·3	6. 0. 44·4	+0·2
	415	10·0	50·5	0·0	44·0	−0·2
	418	10·0	50·3	−0·3	44·3	+0·1
0896	374	10·5	6. 9. 51·0	+1·1	5. 20. 42·8	−1·6
	405	10·5	50·6	+0·6	47·0	+2·6
	418	10·5	49·0	−1·7	43·4	−1·0
0899	374	10·5	6. 10. 8·1	−0·4	5. 27. 58·8	−0·9
	405	10·5	9·3	+1·3	60·2	+0·5
	410	10·5	7·7	−1·0	60·1	+0·4
0904	418	10·0	6. 12. 14·0	−0·7	4. 30. 8·9	−0·4
	426	10·0	15·9	+1·5	8·4	−0·9
	430	10·0	13·8	−0·9	10·7	+1·4
0905	413	10·0	6. 12. 15·8	−0·6	7. 0. 35·0	−0·7
	415	10·0	16·2	+0·2	36·1	+0·4
	426	10·0	16·2	+0·2	36·1	+0·4
0907	410	10·0	6. 13. 11·6	−0·6	5. 37. 16·5	+1·1
	426	10·0	12·5	+0·7	15·1	−0·3
	430	10·0	11·8	−0·3	14·5	−0·9
0908	413	10·0	6. 13. 27·9	−0·2	6. 25. 37·1	+0·8
	415	10·0	28·2	+0·3	36·0	−0·3
	430	10·0	28·0	0·0	35·8	−0·5
0911	374	10·5	6. 14. 13·3	+0·9	4. 43. 25·4	−0·9
	410	10 0	11·7	−1·1	27·1	+0·8
	431	10·5	12·9	+0·4	26·4	+0·1
0915	405	10·5	6. 15. 6·3	+0·8	5. 17. 17·0	+0·9
	431	10·5	5·2	−0·7	15·0	−1·1
	543*	10·5	5·7	0·0	16·2	+0·1
0916	374	10·5	6. 15. 22·3	−0·3	5. 12. 3·3	+0·5
	405	10·5	22·9	+0·5	3·3	+0·5
	431	10·0	22·4	−0·1	1·8	−1·0
0919	426	10·0	6. 16. 59·1	+1·0	5. 37. 53·6	−0·3
	430	10·0	57·3	−1·6	53·6	−0·3
	543*	10·0	58·7	+0·4	54·5	+0·6
0923	405	10·5	6. 17. 52·4	+1·5	5. 3. 17·8	+0·9
	430	10·5	51·0	−0·4	16·9	0·0
	431	10·5	50·4	−1·2	15·9	−1·0
0927	410	9·0	6. 20. 31·8	−1·0	4. 16. 18·1	+1·2
	418	9·5	32·4	−0·3	16·3	−0·6
	426	9·5	33·8	+1·2	16·2	−0·7
0929	405	8·0	6. 20. 53·2	+0·3	5. 11. 34·8	+0·9
	424	8·0	52·2	−1·1	33·8	−0·1
	428	9·0	53·7	+1·0	33·2	−0·7
0931	405	10·0	6. 21. 54·3	+0·4	5. 6. 12·1	−0·1
	424	10·0	52·7	−1·7	12·2	0·0
	429	10·5	55·0	+1·3	12·4	+0·2
0933	374	10·0	6. 22. 31·5	+0·9	4. 57. 9·4	−0·5
	391	10·0	31·7	+1·2	10·3	+0·4
	410	9·5	29·3	−1·9	10·1	+0·2
0936	413	10·5	6. 23. 52·5	−0·2	6. 22. 34·0	−2·0
	415	10·5	52·9	+0·5	36·0	0·0
	431	10·5	52·5	−0·2	38·1	+2·1
0937	374	9·5	6. 24. 19·7	0·0	4. 58. 43·1	−1·0
	391	10·0	19·5	−0·3	44·4	+0·3
	410	9·5	19·8	+0·1	44·9	+0·8
0939	430	10·5	6. 24. 59·8	0·0	5 34. 30·6	−0·6
	439	11·0	60·4	+0·9	30·8	−0·4
	551*	11·0	59·3	−0·7	32·2	+1·0
0941	391	10·0	6. 25. 33·7	−1·1	4. 38. 4·1	−0·4
	405	9·5	35·6	+1·2	4·9	+0·4
	418	9·5	34·5	−0·1	4·5	0·0
0942	430	10·5	6. 25. 61·1	+0·9	5. 52. 18·5	−0·3
	543*	11·0	60·6	+0·2	19·7	+0·9
	550*	11·0	59·8	−1·1	18·2	−0·6
0945	415	10 5	6. 27. 34·8	−0·3	6. 35. 49·6	−2·2
	424	10·5	35·1	+0·2	53·1	+1·3
	426	10·5	35·2	+0·3	52·8	+1·0
0947	418	10·5	6. 28. 2·2	+0·3	5. 51. 41·5	−1·9
	430	10 5	1·7	−0·5	44·4	+1·0
	431	10·5	2·0	0·0	44·2	+0·8
0950	424	9·5	6. 29. 10 8	+0·5	6. 27. 1·1	−0·1
	439	9·5	10·9	+0·7	0·7	−0·5
	549*	10·0	9·8	−1·2	1·7	+0·5
0951	415	10·5	6. 29. 32·2	+0·3	6. 36. 26·2	−0·3
	426	10·5	32·7	+1·2	29·6	+3·1
	550*	11·0	31·1	−1·6	23 8	−2·7
0953	424	9·5	6. 29. 43·6	−0·3	6. 12. 39·9	+0·1
	429	10·0	44·0	+0 3	40·8	+1·0
	439	9·5	43·7	−0·2	38·8	−1·0
0957	391	10·0	6. 31. 35·9	+0·7	4. 37. 59·1	+0·5
	405	10·0	36·3	+1·2	59·0	+0·4
	410	10·0	33·6	−2·1	57·8	−0·8
0959	426	10·5	6. 31. 53·6	+1·3	6. 59. 16·7	+0·9
	431	10·5	52·4	−0·9	14·8	−1·0
	439	10·5	52·6	−0·6	15·9	+0·1
0961	418	10·5	6. 32. 7·9	+0·2	5. 53. 59·9	0·0
	430	10·5	8·0	+0·3	59·0	−0·9
	543*	10·5	7·6	−0·3	60·9	+1·0
0962	374	10·5	6. 32. 32·7	0·0	4. 36. 41·8	−0·4
	391	10·5	33·8	+1·3	41·1	−1·1
	550*	10·5	31·7	−1·2	43·8	+1·6
0963	418	10·5	6. 32. 34·0	−0·2	5. 55. 14·0	+1·3
	426	10·5	34·8	+1·1	11·8	−0·9
	430	10·5	33·5	−0·9	12·2	−0·5
0964	424	10·5	6. 32. 59·0	−0·3	5. 7. 56·2	0·0
	431	10·5	59·9	+1·0	55·7	−0·5
	549*	10·5	58·6	−0·8	56·7	+0·5
0965	415	10·5	6. 33. 46·0	−0·5	6. 38. 40·1	+0·2
	439	10·5	46·9	+1·1	38·3	−1·6
	551*	10·5	46·1	−0·4	41·3	+1·4
0967	426	10·5	6. 34. 29·6	−0·2	5. 48. 47·9	−1·5
	430	10·5	29·4	−0·5	48·9	−0·5
	543*	10·5	30·0	+0·5	51·4	+2·0
0968	374	9·5	6. 34. 58·5	+0·1	4. 2. 49·0	−0·7
	391	9·5	58·0	−0·4	50·7	+1·0
	405	9·0	58·8	+0·4	49·5	−0·2

0849 on 426. 10^s have been added to the observed R.A.
0899 on 374. 5^s have been added to the observed R.A.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0969	413	10·5	6. 35. 28·9	−0·4	6. 42. 19·4	−1·0
	415	10·0	30·2	+1·9	21·2	+0·8
	424	10·5	28·3	−1·4	20·7	+0·3
0970	418	10·5	6. 35. 32·6	0·0	6. 32. 56·8	−0·7
	430	10·5	32·0	−1·0	57·5	0·0
	431	10·5	33·1	+0·9	58·2	+0·7
0973	391	10·5	6. 36. 59·2	+1·1	5. 42. 27·3	+1·3
	405	10·0	59·6	+1·7	26·3	+0·3
	410	10·0	56·7	−2·7	24·5	−1·5
0974	413	9·5	6. 37. 10·8	0·0	6. 47. 48·9	−0·5
	424	9·5	11·0	+0·4	49·9	+0·5
	429	10·0	10·7	−0·2	49·4	0·0
0977	374	10·5	6. 38. 49·2	+2·1	5. 44. 59·4	−2·4
	391	10·5	47·8	0·0	64·0	+2·2
	410	10·5	46·4	−2·1	61·9	+0·1
0979	378	9·5	6. 39. 53·5	+0·7	6. 48. 29·0	−0·6
	413	9·0	52·6	−0·9	29·9	+0·3
	415	9·0	53·3	+0·4	29·8	+0·2
0984	418	10·5	6. 42. 0·5	−0·3	6. 35. 11·3	−1·1
	424	10·5	0·1	−1·0	12·6	+0·2
	426	10·5	1·5	+1·4	13·2	+0·8
0990	378	10·0	6. 42. 50·2	+1·8	6. 56. 1·3	−1·0
	413	9·5	48·4	−1·5	3·1	+0·8
	418	10·0	49·1	−0·2	2·4	+0·1
0993	374	10·5	6. 44. 55·2	−1·0	5. 15. 22·6	+0·7
	391	10·5	56·7	+1·1	21·7	−0·2
	405	10·0	55·8	−0·1	21·5	−0·4
1000	378	10·0	6. 48. 6·7	+0·5	6. 16. 61·3	+0·8
	405	9·5	6·4	0·0	60·6	+0·1
	413	9·5	6·0	−0·7	59·7	−0·8
1006	415	10·5	6. 53. 27·7	0·0	6. 11. 56·5	+0·6
	430	10·5	28·1	+0·7	55·7	−0·2
	431	10·5	27·4	−0·5	55·4	−0·5
1009	374	10·0	6. 53. 49·4	+0·1	4. 50. 51·5	−0·2
	391	10·5	47·9	−1·8	51·5	−0·2
	405	10·5	50·5	+1·5	52·0	+0·3
1011	410	10·5	6. 53. 57·8	−1·1	5. 43. 46·9	−0·1
	424	10·5	58·4	−0·2	47·7	+0·7
	426	10·5	59·2	+1·1	46·3	−0·7
1012	374	10·0	6. 53. 59·2	+0·1	5. 28. 16·1	−1·9
	391	10·5	59·5	+0·6	18·6	+0·6
	405	10·0	58·7	−0·6	19·3	+1·3
1016	374	10·5	6. 55. 34·1	−0·7	5. 25. 5·1	−0·9
	426	11·0	35·1	+0·7	7·7	+1·7
	430	10·5	34·5	−0·1	5·3	−0·7
1019	378	10·5	6. 56. 20·9	−1·6	6. 3. 7·2	+0·5
	415	10·5	22·6	+1·1	6·6	−0·1
	431	10·5	22·3	+0·6	6·2	−0·5
1020	426	10·5	6. 56. 29·5	+0·5	5. 12. 33·6	+1·5
	430	10·5	29·2	+0·1	30·8	−1·3
	431	10·5	28·7	−0·5	31·9	−0·2
1023	378	10·5	6. 58. 27·8	+0·7	6. 23. 61·6	+1·4
	415	10·5	27·1	−0·5	60·2	0·0
	430	10·5	27·3	−0·2	58·7	−1·5
1025	374	10·5	7. 0. 7·2	+1·7	4. 42. 16·8	−0·8
	405	10·5	5·3	−0·6	17·5	−0·1
	410	10·5	4·8	−1·2	18·6	+1·0
1029	374	9·0	7. 1. 34·3	−0·3	5. 31. 22·0	−0·6
	410	9·0	35·1	+0·9	22·8	+0·2
	418	9·0	34·0	−0·7	23·0	+0·4
1034	391	10·5	7. 3. 15·2	−0·7	5. 12. 0·2	−0·6
	418	10·5	15·4	−0·4	1·2	+0·4
	426	10·0	16·4	+1·0	1·0	+0·2
1036	405	10·5	7. 4. 8·0	−1·3	4. 11. 3·7	+0·3
	426	10·5	8·7	−0·5	3·2	−0·2
	430	10·5	10·9	+1·9	3·4	0·0
1041	378	10·5	7. 5. 52·7	+0·4	6. 48. 5·3	+0·7
	426	10·0	52·6	+0·2	4·8	+0·2
	430	10·5	52·1	−0·7	3·8	−0·8
1047	378	10·5	7. 9. 7·9	+0·3	6. 19. 45·1	−1·5
	418	10·5	7·8	+0·2	45·9	−0·7
	426	10·5	7·5	−0·3	48·8	+2·2
1048	374	10·5	7. 9. 13·4	−0·6	4. 33. 25·0	−0·4
	391	10·5	14·1	+0·5	25·1	−0·3
	405	10·5	14·0	+0·3	26·0	+0·6
1050	418	9·0	7. 10. 10·6	+0·4	7. 2. 28·2	+0·6
	426	9·5	10·2	−0·4	27·4	−0·2
	430	9·0	10·4	0·0	27·2	−0·4
1051	424	10·0	7. 10. 17·9	+0·4	6. 58. 3·6	+2·0
	426	10·0	17·3	−0·7	0·4	−1·2
	430	9·5	17·9	+0·4	0·7	−0·9
1053	426	10·5	7. 11. 41·0	+0·8	6. 11. 45·1	+0·5
	430	10·0	40·6	+0·2	45·6	+1·0
	431	10·5	39·9	−1·0	43·2	−1·4
1054	391	10·5	7. 12. 7·8	+0·9	5. 53. 11·7	−0·6
	410	10·5	6·7	−0·8	12·6	+0·3
	431	10·5	7·2	0·0	12·5	+0·2
1057	374	10·0	7. 12. 42·9	+0·8	4. 27. 11·9	+0·2
	391	10·0	42·2	0·0	10·5	−1·2
	405	10·0	41·6	−0·7	12·6	+0·9
1059	374	10·5	7. 13. 29·2	−1·8	4. 34. 23·7	+0·7
	391	10·5	31·5	+1·0	21·7	−1·3
	405	10·5	31·4	+0·8	23·5	+0·5
1062	430	10·0	7. 14. 40·7	+1·4	6. 51. 32·7	−1·7
	543*	10·0	39·6	−0·5	36·6	+2·2
	566*	10·5	39·3	−1·1	33·9	−0·5
1063	374	10·0	7. 14. 41·9	−0·8	5. 6. 16·1	−1·3
	426	10·0	41·7	−1·1	17·3	−0·1
	439	10·5	43·9	+1·9	18·8	+1·4
1065	374	10·0	7. 15. 6·5	−0·8	5. 11. 55·2	0·0
	426	10·0	6·1	−1·4	55·2	0·0
	431	10·0	7·0	−0·1	54·1	−1·1
	439	10·0	8·9	+2·4	56·3	+1·1
1066	378	9·5	7. 15. 32·7	−1·6	6. 36. 56·1	−0·6
	409	9·0	33·9	+0·5	56·4	−0·3
	566*	9·5	34·2	+1·0	57·5	+0·8
1068	430	10·5	7. 15. 40·9	−0·2	7. 1. 0·6	−0·5
	543*	10·5	41·1	+0·2	2·1	+1·0
	588*	10·5	40·9	−0·2	0·6	−0·5
1069	430	10·5	7. 15. 51·2	0·0	5. 29. 46·2	−2·1
	565*	10·5	51·5	+0·4	49·2	+0·9
	589*	10·5	51·0	−0·3	49·5	+1·2
1070	409	10·5	7. 17. 22·4	+0·3	6. 26. 1·5	−1·2
	565*	10·5	22·0	−0·3	3·9	+1·2
	566*	10·5	22·3	+0·2	2·6	−0·1
1071	410	10·5	7. 17. 34·3	−0·6	5. 53. 13·0	−1·3
	589*	10·5	34·5	−0·3	15·9	+1·6
	591*	10·0	35·2	+0·8	13·9	−0·4
1072	543*	10·0	7. 17. 39·0	−1·1	6. 42. 39·7	+0·8
	588*	10·0	39·5	−0·2	38·4	−0·5
	591*	10·0	40·4	+1·4	38·6	−0·3
1073	426	10·5	7. 17. 42·6	+1·0	5. 12. 47·3	+0·9
	431	10·5	41·5	−0·6	43·9	−2·5
	439	10·5	41·7	−0·3	47·9	+1·5
1074	378	10·0	7. 18. 2·5	−0·3	6. 7. 1·4	−1·3
	430	10·0	2·0	−1·1	4·1	+1·4
	439	10·0	3·5	+1·3	2·6	−0·1
1078	409	10·0	7. 20. 11·3	−0·4	6. 57. 14·2	−1·6
	426	9·5	11·7	+0·4	16·5	+0·7
	431	10·0	11·5	0·0	16·8	+1·0
1079	405	10·5	7. 20. 45·4	+0·6	5. 50. 5·6	−1·3
	410	10·5	44·4	−0·9	8·4	+1·5
	543*	10·5	45·2	+0·3	6·7	−0·2
1080	426	10·5	7. 21. 54·3	−0·2	6. 46. 34·2	+0·3
	439	10·5	54·7	+0·5	33·1	−0·8
	565*	10·5	54·1	−0·5	34·4	+0·5
1083	430	10·5	7. 22. 4·0	+0·5	6. 4. 19·3	−2·5
	431	10·5	3·0	−1·1	21·6	−0·2
	566*	10·5	4·1	+0·6	24·6	+2·8
1084	426	10·5	7. 22. 8·7	+0·9	6. 45. 56·9	−1·3
	439	10·5	7·8	−0·7	58·4	+0·2
	565*	10·5	8·0	−0·4	59·4	+1·2
1085	409	9·5	7. 22. 45·9	−0·2	6. 38. 4·3	−0·9
	430	10·0	46·1	+0·2	5·5	+0·3
	543*	10·0	45·9	−0·2	5·9	+0·7
1090	409	10·5	7. 25. 32·2	−1·1	6. 39. 39·1	−0·4
	426	10·5	33·0	+0·4	40·2	+0·7
	430	10·5	33·2	+0·7	39·1	−0·4
1091	374	10·0	7. 25. 46·2	+2·4	5. 42. 46·0	−2·1
	405	10·0	44·0	−0·9	49·0	+0·9
	410	10·0	43·6	−1·5	49·2	+1·1
1092	405	11·0	7. 26. 6·9	+0·1	5. 40. 15·7	−2·7
	410	10·5	7·1	+0·4	19·4	+1·0
	431	11·0	6·4	−0·6	20·0	+1·6
1096	374	9·5	7. 28. 40·6	+1·2	5. 43. 4·6	−0·6
	405	9·5	39·6	−0·3	5·4	+0·2
	430	9·0	39·3	−0·8	5·7	+0·5
1098	410	9·0	7. 28. 45·3	−1·3	4. 58. 16·8	+0·6
	426	9·0	47·0	+0·9	16·4	+0·2
	431	9·0	46·7	+0·5	15·5	−0·7
1099	409	10·5	7. 29. 6·5	−0·2	5. 51. 16·4	0·0
	426	10·5	6·5	−0·2	15·8	−0·6
	431	10·5	6·9	+0·5	17·0	+0·6

0990 on 378. 10ˢ have been taken off the observed R.A.
1073 on 439. 4ˢ have been conjecturally taken off the observed R.A.
1078 on 426. 20″ have been taken off the circle-reading.
1096 on 430. 10″ have been taken off the circle-reading.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1103	374	10·0	7. 29. 58·6	+0·8	5. 44. 38·1	−0·4
	405	10·0	57·8	−0·5	39·0	+0·5
	430	9·5	58·0	−0·2	38·4	−0·1
1104	430	10·0	7. 29. 61·3	+1·3	5. 29. 50·0	+0·6
	431	10·0	58·5	−2·7	48·6	−0·8
	439	10·0	61·3	+1·3	49·5	+0·1
1107	405	10·0	7. 31. 12·7	+0·6	4. 51. 57·4	+0·1
	410	10·5	10·4	−2·3	56·5	−0·8
	439	10·5	13·6	+1·8	57·9	+0·6
1109	378	10·0	7. 32. 9·0	−0·4	6. 47. 6·6	+0·1
	409	10·0	9·2	0·0	5·2	−1·3
	439	10·5	9·4	+0·4	7·6	+1·1
1111	430	10·5	7. 32. 43·3	−1·4	6. 33. 18·6	+0·7
	431	10·5	44·8	+1·2	15·0	−2·9
	543*	10·5	44·2	+0·2	20·1	+2·2
1113	374	9·0	7. 33. 37·6	+1·2	5. 12. 37·6	−2·4
	410	8·5	36·7	0·0	40·5	+0·5
	565*	9·5	35·8	−1·2	41·8	+1·8
1114	409	10·5	7. 33. 36·7	−0·7	6. 44. 2·1	−1·1
	439	10·5	38·4	+2·3	4·8	+1·6
	543*	10·5	36·1	−1·8	2·7	−0·5
1119	430	10·5	7. 35. 18·9	+0·6	6. 57. 42·4	−1·3
	431	10·5	17·9	−1·3	42·5	−1·2
	543*	10·5	19·1	+0·9	46·1	+2·4
1122	431	10·5	7. 36. 26·5	−0·6	6. 10. 8·1	−0·9
	439	10·5	27·6	+1·1	8·1	−0·9
	565*	10·5	26·6	−0·5	10·7	+1·7
1127	374	8·0	7. 41. 37·1	+0·6	5. 32. 19·9	−0·7
	410	8·0	35·9	−1·2	21·4	+0·8
	430	7·0	37·0	+0·4	20·6	0·0
1130	374	10·0	7. 42. 7·3	+3·1	5. 17. 24·3	+1·8
	410	10·0	3·5	−2·2	21·1	−1·4
	431	10·0	4·5	−0·8	22·0	−0·5
1134	374	10·0	7. 42. 52·4	+0·9	5. 34. 44·3	−0·1
	410	10·0	51·4	−0·6	43·3	−1·1
	430	10·0	51·6	−0·3	45·6	+1·2
1142	410	10·0	7. 45. 40·8	−1·2	4. 27. 31·0	−0·2
	430	10·5	42·4	+0·7	31·6	+0·4
	431	10·0	42·2	+0·5	31·1	−0·1
1145	430	10·5	7. 47. 11·0	+1·4	6. 40. 3·2	−1·3
	431	10·5	10·6	+0·7	4·1	−0·4
	543*	10·5	8·9	−2·3	6·3	+1·8
1152	410	10·5	7. 50. 22·4	+0·7	5. 38. 31·0	−0·1
	430	10·0	21·1	−1·2	32·7	+1·6
	431	10·5	22·3	+0·6	29·5	−1·6
1153	374	9·0	7. 50. 41·0	+0·3	5. 33. 23·9	+0·2
	410	9·0	40·1	−1·0	22·7	−1·0
	430	9·0	41·2	+0·6	24·4	+0·7
1158	374	10·0	7. 53. 37·2	+1·7	5. 25. 1·2	−0·3
	410	10·5	34·2	−2·6	1·3	−0·2
	431	10·0	36·5	+0·7	2·0	+0·5
1159	378	8·0	7. 53. 41·4	−1·5	6. 28. 6·2	−0·7
	430	8·5	43·0	+1·2	7·8	+0·9
	439	8·0	42·5	+0·3	6·6	−0·3
1160	374	10·0	7. 54. 12·0	−0·3	5. 25. 11·2	−1·8
	410	10·0	11·7	−0·7	13·3	+0·3
	431	10·0	12·8	+0·9	14·4	+1·4
1161	374	9·0	7. 55. 5·1	+0·5	4. 18. 28·0	−1·1
	439	9·0	4·4	−0·3	28·9	−0·2
	543*	9·5	4·5	−0·2	30·3	+1·2
1162	589*	10·5	7. 55. 10·0	+0·1	5. 16. 45·9	−0·1
	591*	10·5	9·5	−0·6	46·1	+0·1
	597*	10·5	10·2	+0·4	45·9	−0·1
1163	430	10·5	7. 55. 25·2	0·0	6. 49. 57·3	+0·9
	431	10·5	25·3	+0·2	54·7	−1·7
	565*	10·5	25·2	0·0	57·2	+0·8
1164	454	10·5	7. 55. 56·3	+1·8	6. 9. 40·3	−0·6
	543*	10·5	52·9	−3·7	41·8	+0·9
	586*	10·5	56·4	+1·9	40·6	−0·3
1166	378	10·0	7. 56. 4·1	−0·4	6. 48. 18·3	+0·2
	431	10·0	3·8	−0·9	17·0	−1·1
	565*	10·0	4·9	+1·1	19·1	+1·0
1167	439	10·0	7. 56. 16·8	+0·1	4. 44. 50·9	+0·6
	566*	10·0	15·9	−1·0	49·8	−0·5
	588*	10·0	17·5	+1·0	50·2	−0·1
1168	430	10·0	7. 57. 29·1	−0·3	5. 19. 27·6	−1·5
	566*	10·5	29·2	−0·1	29·6	+0·5
	589*	10·0	29·5	+0·3	30·1	+1·0
1169	454	10·5	7. 57. 39·0	+1·4	6. 6. 46·5	0·0
	543*	10·5	36·5	−2·6	46·9	+0·4
	586*	10·5	38·8	+1·1	46·1	−0·4

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1173	374	10·5	7. 58. 39·4	−0·4	4. 44. 58·7	+1·2
	439	10·5	39·8	+0·1	55·8	−1·7
	588*	10·5	40·0	+0·4	58·1	+0·6
1174	378	10·0	7. 59. 11·4	−2·4	6. 34. 10·1	−0·4
	454	10·0	13·6	+1·4	9·0	−1·5
	565*	10·0	13·5	+1·2	12·4	+1·9
1175	431	10·0	7. 59. 25·4	+2·4	6. 11. 49·6	−0·4
	454	10·5	22·7	−2·0	48·8	+0·4
	543*	10·5	23·7	−0·3	49·2	0·0
1177	430	10·0	7. 59. 43·9	+0·5	6. 23. 10·8	−1·1
	439	10·0	43·9	+0·5	12·4	+0·5
	566*	10·0	43·1	−0·8	12·5	+0·6
1184	410	9·5	8. 3. 0·9	−1·3	5. 19. 19·2	+0·1
	428	9·5	1·9	+0·1	19·5	+0·4
	430	9·5	2·6	+1·1	18·5	−0·6
1185	430	10·5	8. 3. 2·5	+0·8	6. 3. 48·9	+1·2
	431	10·5	1·8	−0·3	46·1	−1·6
	454	11·0	1·8	−0·3	48·0	+0·3
1188	410	9·5	8. 3. 45·8	−2·4	5. 5. 20·2	−0·4
	428	9·5	48·6	+1·3	20·6	0·0
	429	9·5	48·4	+1·1	20·9	+0·3
1196	405	10·0	8. 9. 4·0	−0·3	4. 48. 50·1	+1·8
	410	10·0	3·7	−0·6	47·0	−1·3
	428	10·0	4·9	+0·9	47·9	−0·4
1199	410	10·5	8. 9. 56·8	+0·8	5. 36. 52·9	−0·7
	428	10·5	55·4	−1·0	54·1	+0·5
	431	10·0	56·4	+0·3	53·8	+0·2
1200	428	10·5	8. 10. 54·6	+0·1	5. 26. 11·7	−0·7
	429	10·5	54·7	+0·3	12·5	+0·1
	454	10·5	54·3	−0·3	13·1	+0·7
1203	431	10·5	8. 12. 15·2	+1·5	5. 13. 41·9	−0·8
	543*	10·5	12·9	−1·7	43·2	+0·5
	565*	10·5	14·1	0·0	42·9	+0·2
1204	428	10·0	8. 12. 38·9	+0·7	5. 23. 34·6	+0·9
	429	10·0	38·1	−0·4	32·6	−1·1
	454	10·0	38·1	−0·4	34·0	+0·3
1205	405	8·5	8. 12. 40·0	−0·7	4. 26. 51·5	+0·7
	410	8·0	40·2	−0·5	50·2	−0·6
	566*	9·5	41·7	+1·3	50·8	0·0
1207	378	10·5	8. 12. 59·1	0·0	6. 10. 24·6	−0·3
	454	10·0	59·0	−0·2	23·4	−1·5
	543*	10·0	59·2	+0·3	26·7	+1·8
1211	431	9·0	8. 13. 48·6	−1·8	6. 54. 10·6	+0·1
	439	9·0	50·8	+2·2	10·8	+0·3
	566*	10·0	49·5	−0·2	10·1	−0·4
1212	543*	10·5	8. 13. 59·3	−0·2	6. 14. 24·0	+1·1
	565*	10·5	59·6	+0·3	22·1	−0·8
	588*	10·5	59·4	0·0	22·7	−0·2
1213	405	9·0	8. 14. 35·9	−0·8	4. 18. 22·6	+1·4
	410	9·0	36·6	0·0	21·6	+0·4
	428	9·0	37·2	+0·7	19·4	−1·8
1216	429	10·5	8. 16. 58·8	−0·7	6. 50. 42·4	−1·1
	543*	10·0	59·4	+0·4	44·0	+0·5
	565*	10·0	59·3	+0·2	44·1	+0·6
1217	405	10·5	8. 17. 20·5	−0·6	4. 41. 8·1	+1·3
	410	10·5	20·6	−0·5	5·1	−1·7
	454	10·5	21·9	+1·1	7·3	+0·5
1218	428	10·0	8. 17. 25·9	−2·3	6. 16. 31·9	−0·4
	431	10·0	28·2	+1·5	32·2	−0·1
	453	10·0	27·8	+0·8	32·7	+0·4
1219	378	10·5	8. 17. 49·7	−0·8	6. 5. 21·0	−0·8
	429	10·5	50·9	+1·1	21·2	−0·6
	543*	10·0	50·0	−0·3	23·3	+1·5
1224	413	10·5	8. 21. 25·0	−2·0	6. 45. 6·5	+3·0
	428	10·0	26·3	+0·4	2·3	−1·2
	429	10·5	27·0	+1·6	1·6	−1·9
1228	453	11·0	8. 22. 9·9	0·0	6. 33. 44·1	−0·8
	454	10·5	10·4	+0·9	43·6	−1·3
	543*	10·5	9·4	−0·9	47·0	+2·1
1232	378	10·0	8. 24. 8·9	+1·1	6. 42. 41·8	−1·6
	413	10·5	7·6	−1·2	45·8	+2·4
	428	10·0	8·4	−0·2	42·5	−0·9
1233	405	8·0	8. 25. 5·2	−0·3	5. 35. 10·2	+0·8
	428	8·5	5·8	+0·6	7·2	−2·2
	429	9·0	5·3	−0·1	10·8	+1·4
1235	426	10·0	8. 25. 38·1	0·0	5. 55. 48·6	+0·1
	429	10·0	38·5	+0·6	46·1	−2·4
	453	10·0	37·8	−0·5	50·8	+2·3
1237	405	10·5	8. 25. 47·7	−1·0	5. 25. 49·4	−0·6
	454	10·5	49·6	+1·7	49·8	−0·2
	543*	10·5	47·9	−0·7	50·9	+0·9

1164 and 1169 on 543* are discordant in R.A., and similarly.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1240	405	10·0	8. 26. 42·6	−0·5	4. 41. 24·5	+0·4
	453	10·0	43·3	+0·4	24·0	−0·1
	454	10·0	43·2	+0·2	23·9	−0·2
1242	405	10·5	8. 27. 41·9	−0·4	5. 31. 3·9	+0·5
	428	10·0	42·0	−0·3	4·1	+0·7
	453	10·5	42·7	+0·7	2·2	−1·2
1246	426	10·5	8. 28. 23·9	0·0	6. 31. 6·6	−0·1
	428	10·5	24·0	+0·2	5·8	−0·9
	454	10·5	23·8	−0·2	7·6	+0·9
1249	413	10·5	8. 30. 30·6	−1·4	6. 36. 35·8	+1·4
	426	10·5	31·9	+0·9	32·8	−1·6
	453	10·5	31·8	+0·7	34·6	+0·2
1250	378	10·5	8. 32. 5·2	−0·3	6. 28. 55·7	+1·0
	426	10·0	5·7	+0·5	54·3	−0·4
	428	10·5	5·2	−0·3	54·1	−0·6
1252	405	10·5	8. 32. 41·0	−0·1	5. 5. 12·9	+0·8
	410	11·0	39·6	−2·0	14·0	+1·9
	453	10·5	42·6	+2·0	9·4	−2·7
1253	405	10·0	8. 32. 51·3	−0·8	5. 11. 48·8	+0·3
	410	10·0	52·0	+0·1	48·8	+0·3
	429	9·5	52·5	+0·8	48·0	−0·5
1254	378	7·0	8. 33. 1·5	0·0	6. 44. 33·5	−1·6
	413	8·0	0·6	−1·6	36·0	+0·9
	428	8·0	2·0	+0·9	35·5	+0·4
	454	7·0	1·9	+0·7	35·4	+0·3
1260	426	10·0	8. 34. 15·0	+0·4	7. 1. 58·7	+0·4
	429	10·0	14·6	−0·4	56·5	−1·8
	454	10·0	14·9	+0·2	59·8	+1·5
1262	378	7·0	8. 35. 46·4	−0·9	6. 42. 40·6	−1·0
	413	8·0	47·7	+1·4	42·4	+0·8
	428	8·0	47·1	+0·4	41·1	−0·5
	454	7·0	46·2	−1·2	42·1	+0·5
1264	428	10·5	8. 35. 54·7	+0·9	5. 28. 45·1	−1·5
	543*	10·5	53·4	−1·0	47·4	+0·8
	565*	10·5	54·3	+0·3	47·4	+0·8
1266	426	10·5	8. 36. 29·5	−0·7	6. 56. 59·4	+0·8
	454	10·5	30·2	+0·6	57·5	−1·1
	565*	10·5	30·1	+0·4	58·8	+0·2
1268	453	9·0	8. 36. 56·4	+0·2	4. 44. 42·4	+0·5
	543*	9·5	56·1	−0·1	41·8	−0·1
	566*	9·5	56·2	0·0	41·4	−0·5
1269	405	10·5	8. 37. 10·0	−2·1	4. 29. 29·6	+1·9
	429	10·5	13·4	+1·9	25·3	−2·4
	566*	10·5	11·9	+0·1	28·2	+0·5
1270	405	10·5	8. 37. 26·5	−1·1	4. 36. 47·1	−0·1
	453	11·0	28·8	+1·7	47·6	+0·4
	543*	10·5	27·0	−0·5	47·0	−0·2
1271	426	10·5	8. 38. 22·7	−0·7	5. 25. 39·7	+1·2
	428	10·0	22·8	−0·6	37·6	−0·9
	454	10·0	24·0	+1·1	38·2	−0·3
1272	413	10·0	8. 40. 2·1	−1·0	6. 16. 5·3	+1·2
	428	9·0	3·0	+0·5	3·9	−0·2
	429	9·0	3·1	+0·7	3·0	−1·1
1276	426	10·5	8. 41. 57·8	−0·4	7. 3. 50·4	+1·0
	453	10·5	57·5	−0·9	49·1	−0·3
	454	10·5	58·8	+1·5	48·8	−0·6
1278	405	9·5	8. 42. 33·9	−0·4	4. 57. 5·5	+0·6
	410	9·5	33·7	−0·7	4·8	−0·1
	426	9·5	34·9	+0·9	4·5	−0·4
1279	405	10·5	8. 42. 43·3	+0·3	5. 0. 37·1	+1·0
	410	11·0	41·8	−1·7	36·9	+0·8
	453	10·5	44·3	+1·6	34·4	−1·7
1284	428	10·5	8. 43. 58·4	−0·5	6. 39. 9·5	+0·6
	430	10·5	59·9	+2·1	7·5	−1·4
	565*	10·5	57·8	−1·6	9·7	+0·8
1285	405	10·0	8. 43. 58·7	0·0	4. 52. 46·1	−0·1
	426	10·0	59·2	+0·6	46·6	+0·4
	453	10·0	58·3	−0·5	45·9	−0·3
1286	430	6·0	8. 44. 17·3	−0·7	5. 14. 52·9	−0·4
	439	8·0	18·2	+0·6	52·9	−0·4
	566*	7·0	17·9	+0·1	54·1	+0·8
1288	429	10·0	8. 44. 42·9	0·0	5. 46. 2·5	−0·5
	454	10·0	42·9	0·0	2·5	−0·5
	566*	10·0	42·9	0·0	4·0	+1·0
1289	413	10·0	8. 45. 1·9	−1·2	6. 18. 21·9	−0·9
	428	10·0	2·7	+0·2	22·7	−0·1
	429	10·0	3·2	+1·0	23·8	+1·0
1293	454	11·0	8. 45. 49·8	−0·7	4. 32. 33·3	−0·6
	565*	10·5	50·6	+0·2	34·4	+0·5
	588*	11·0	50·8	+0·5	34·0	+0·1
1294	410	10·5	8. 46. 2·5	−0·1	5. 6. 56·4	−0·8
	426	10·5	2·1	−0·7	57·9	+0·7
	439	10·5	3·2	+0·8	57·2	0·0
1296	428	9·0	8. 47. 8·5	−0·3	5. 47. 15·4	−0·4
	429	9·5	9·0	+0·5	16·4	+0·6
	453	10·0	8·6	−0·2	15·5	−0·3
1297	426	10·0	8. 47. 58·4	0·0	6. 5. 5·1	+0·8
	430	10·0	58·4	0·0	3·4	−0·9
	439	10·0	58·3	−0·2	4·4	+0·1
1298	413	9·5	8. 48. 12·5	+0·5	6. 32. 33·3	+1·2
	430	10·0	12·0	−0·3	31·4	−0·7
	454	10·0	12·0	−0·3	31·6	−0·5
1304	426	10·0	8. 50. 12·5	+1·1	5. 53. 4·4	+0·2
	428	10·0	11·8	0·0	4·1	−0·1
	429	10·0	11·1	−1·1	4·1	−0·1
1307	405	10·5	8. 52. 51·0	+0·2	4. 35. 2·3	+0·2
	410	10·5	50·5	−0·4	2·8	+0·7
	430	10·5	50·8	0·0	1·3	−0·8
1308	428	10·0	8. 53. 17·7	−0·7	5. 34. 37·9	−0·1
	431	10·0	18·2	0·0	38·9	+0·9
	439	10·5	18·6	+0·6	37·1	−0·9
1309	426	10·0	8. 53. 21·1	−0·3	5. 5. 26·3	+0·4
	428	10·0	21·5	+0·3	26·3	+0·4
	429	10·0	21·3	0·0	25·1	−0·8
1312	413	10·5	8. 54. 13·3	+2·0	6. 16. 37·5	+0·8
	431	10·5	10·5	−2·8	36·6	−0·1
	453	10·5	12·6	+0·8	36·0	−0·7
1314	413	10·5	8. 54. 36·7	+2·1	6. 12. 32·8	−0·2
	431	10·5	34·4	−1·6	34·2	+1·2
	453	10·5	35·1	−0·5	32·1	−0·9
1315	405	10·5	8. 54. 39·2	−1·5	4. 48. 49·3	+0·8
	430	10·5	40·3	−0·1	46·3	−2·2
	439	10·5	41·6	+1·5	49·9	+1·4
1316	426	9·0	8. 54. 53·4	+0·2	6. 47. 43·4	+0·1
	428	9·0	53·5	+0·4	43·2	−0·1
	429	9·0	53·0	−0·5	43·4	+0·1
1318	426	10·0	8. 56. 11·9	+0·4	7. 3. 57·8	+0·8
	428	9·5	12·3	+0·9	55·8	−1·2
	429	9·0	10·9	−1·5	57·3	+0·3
1319	429	10·5	8. 56. 45·9	0·0	6. 31. 8·8	+1·3
	430	10·5	46·2	+0·5	5·4	−2·1
	431	10·5	45·6	−0·5	8·3	+0·8
1320	405	9·5	8. 57. 4·1	+1·4	4. 11. 23·8	+0·2
	410	9·0	2·6	−0·2	23·2	−0·4
	416	9·5	1·8	−1·1	23·7	+0·1
1322	413	9·5	8. 58. 42·3	−1·0	6. 29. 41·3	+2·1
	415	9·5	43·7	+1·4	38·2	−1·0
	426	9·5	42·1	−1·4	40·1	+0·9
	428	9·5	43·5	+1·0	37·2	−2·0
1328	431	10·5	9. 0. 30·8	+3·0	6. 41. 0·3	−0·9
	453	10·5	28·8	−0·5	1·2	0·0
	816	11·0	27·8	−2·3	2·2	+1·0
1331	426	10·0	9. 0. 48·6	0·0	5. 51. 46·0	+1·7
	429	10·5	48·1	−0·8	42·7	−1·6
	431	10·0	49·1	+0·8	44·2	−0·1
1332	405	10·5	9. 1. 4·7	−1·8	4. 33. 30·8	+1·1
	428	10·5	7·4	+1·4	29·5	−0·2
	453	11·0	6·6	+0·5	28·8	−0·9
1333	430	10·5	9. 1. 7·9	+0·3	6. 25. 7·8	−1·0
	816	11·0	8·2	+0·8	9·2	+0·4
	817	11·0	7·0	−1·2	9·5	+0·7
1335	428	10·5	9. 2. 10·6	−1·0	5. 26. 47·6	0·0
	429	10·5	11·4	+0·1	46·7	−0·9
	439	10·5	12·0	+1·0	48·6	+1·0
1339	415	9·5	9. 3. 28·2	−0·9	6. 42. 4·9	+0·8
	428	9·0	29·2	+0·9	3·7	−0·4
	430	9·0	28·6	−0·2	3·7	−0·4
1345	405	10·5	9. 5. 3·5	+1·3	4. 57. 37·4	+0·9
	410	11·0	1·6	−1·2	35·4	−1·1
	431	10·5	2·4	−0·1	36·7	+0·2
1346	413	10·0	9. 5. 5·6	−2·0	6. 15. 43·3	+2·1
	426	10·0	7·5	+1·2	40·4	−0·7
	430	10·0	7·4	+1·0	39·9	−1·3
1347	416	9·0	9. 5. 50·5	−1·5	5. 38. 22·3	0·0
	429	9·0	52·0	+0·7	21·6	−0·7
	439	9·0	52·1	+0·9	23·1	+0·8
1348	429	10·5	9. 6. 8·4	−1·4	6. 26. 13·7	−0·3
	430	10·0	9·1	−0·2	12·5	−1·5
	431	10·5	10·2	+1·7	15·8	+1·8
1351	426	10·5	9. 6. 57·3	−0·6	6. 9. 10·1	+2·3
	454	10·5	58·0	+0·5	7·3	−0·5
	464	10·5	57·7	0·0	6·0	−1·8
1353	426	10·0	9. 7. 26·3	−0·6	6. 9. 3·7	−0·1
	454	10·0	26·6	−0·2	6·0	+2·2
	464	10·0	27·1	+0·6	1·7	−2·1

1289 on 413. 10^s have been added to the observed R.A.
1307 on 410. The second of 2 stars.
1332 on 453. The second of 3 stars.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	"	° ′ ″	"				h m s	"	° ′ ″	"
1354	428	10·5	9. 7. 44·9	−0·3	6. 30. 1·8	−1·8	1415	430	10·5	9. 28. 24·4	+0·7	6. 22. 30·1	−1 8
	439	10·5	45·5	+0·7	4·3	+0·7		454	10·5	23·1	−1·5	32·7	+0·8
	453	11·0	45·0	−0·2	4·8	+1·2		470	10·5	24·5	+0·8	33·0	+1·1
1355	428	10·5	9. 7. 55·0	−1·1	6. 41. 40·9	−1·5	1416	464	11·0	9. 28. 39·6	+1·1	6. 46. 55·5	−0·3
	454	11·0	56·2	+1·1	42·9	+0·5		471	11·0	38·4	−1·1	53·3	−2·5
	565*	10·5	55·6	0·0	43·4	+1·0		588*	10·5	39·0	0·0	58·5	+2·7
1356	410	11·0	9. 8. 16·4	+1·3	5. 18. 57·4	−1·1	1417	429	10·5	9. 29. 49·9	+0·3	5. 33. 11·1	−0·1
	464	10·5	15·8	+0·4	57·0	−1·5		454	10·5	49·6	−0·1	11·5	+0·3
	589*	11·0	14·3	−1·7	61·2	+2·7		471	10·5	49·5	−0·3	10·9	−0·3
1357	405	9·5	9. 8. 31·8	−0·2	4. 16. 33·1	−0·2	1419	431	10·0	9. 30. 4·4	−1·4	6. 40. 29·3	−0·3
	410	9·0	31·7	−0·3	32·9	−0·4		439	10·5	6·4	+2·1	30·0	+0·4
	416	9·0	32·4	+0·4	34·0	+0·7		459	10·0	4·7	−0·9	29·4	−0·2
1358	429	10·5	9. 8. 47·2	−0·9	5. 51. 16·4	−3·1	1422	429	10·5	9. 31. 46·1	+0·2	6. 54. 25·7	−1·9
	430	10·5	47·6	−0·3	19·3	−0·2		453	10·0	45·1	−1·6	28·2	+0·6
	588*	10·5	48·7	+1·4	22·8	+3·3		464	10·0	46·7	+1·3	28·8	+1·2
1363	426	10·0	9. 11. 52·0	+0·6	5. 49. 18·6	+1·1	1426	405	11·0	9. 32. 32·6	−1·6	4. 25. 54·1	+2·7
	429	10·0	52·3	+1·1	16·9	−0·6		453	10·5	35·1	+1·3	51·1	−0·3
	430	10·0	50·6	−1·5	17·1	−0·4		470	10·5	34·2	+0·2	49·1	−2·3
1364	405	10·5	9. 11. 61·7	+1·5	4. 7. 1·1	+0·4	1427	426	10·0	9. 32. 59·0	+1·0	6. 29. 6·3	+1·6
	410	10·5	61·2	+1·0	0·9	+0·2		430	9·5	58·3	−0·2	3·8	−0·9
	416	10·5	58·0	−2·5	0·2	−0·5		431	9·5	58·0	−0·7	4·0	−0·7
1367	431	10·5	9. 12. 22·6	−1·1	5. 57. 54·0	−0·3	1431	426	10·5	9. 35. 18·9	+0·2	6. 27. 5·6	+0·7
	439	10·5	24·3	+1·6	53·2	−1·1		430	10·5	18·9	+0·2	5·5	+0·6
	464	10·5	23·1	−0·3	55·7	+1·4		431	10·5	18·7	−0·2	3·5	−1·4
1369	413	8·0	9. 12. 27·8	−0·7	6. 26. 41·3	+1·1	1434	426	10·0	9. 36. 18·7	−0·2	6. 46. 51·0	+1·9
	415	9·0	28·3	+0·2	39·7	−0·5		431	10·0	19·0	+0·4	47·2	−1·9
	426	8·0	28·6	+0·7	39·6	−0·6		439	10·0	18·8	0·0	49·1	0·0
1370	415	10·5	9. 12. 28·2	−1·5	6. 32. 26·7	−0·3	1435	429	9·0	9. 36. 30·9	+0·8	5. 50. 31·1	+0·1
	428	10·5	28·3	−1·4	26·4	−0·6		430	9·0	30·3	−0·2	31·9	+0·9
	459	10·5	30·7	+2·8	28·0	+1·0		439	9·5	30·1	−0·5	30·0	−1·0
1371	428	10·5	9. 12. 34·9	+0·7	6. 38. 44·7	−2·7	1436	426	11·0	9. 36. 40·4	−0·4	6. 56. 63·6	+1·6
	453	10·5	33·1	−2·4	48·0	+0·6		454	10·5	41·4	+1·5	62·6	+0·6
	454	10·5	35·4	+1·6	49·5	+2·1		470	10·5	39·9	−1·3	59·7	−2·3
1377	428	9·5	9. 14. 37·8	+0·9	6. 56. 4·2	−0·4	1439	426	10·0	9. 39. 4·8	+1·1	7. 4. 2·8	−0·2
	429	10·0	36·9	−0·7	4·9	+0·3		431	10·5	4·6	+0·7	2·6	−0·4
	430	10·0	37·3	0·0	4·8	+0·2		439	10·5	3·2	−1·9	3·5	+0·5
1379	405	10·0	9. 15. 9·2	−0·4	5. 31. 22·4	+0·1	1441	429	10·0	9. 39. 15·1	+0·2	6. 10. 17·4	−1·8
	410	9·0	9·1	−0·6	22·1	−0·2		459	10·0	15·2	+0·3	21·4	+2·2
	416	9·5	10·1	+0·9	22·3	0·0		470	10·0	14·8	−0·3	18·9	−0·3
1383	415	10·5	9. 16. 45·1	−1·0	6. 25. 46·2	+1·9	1442	430	10·0	9. 39. 57·1	+0·4	5. 41. 15·0	−1·5
	426	10·5	46·2	+0·8	44·0	−0·3		454	10·0	56·1	−1·0	17·5	+1·0
	429	10·5	45·7	0·0	42·7	−1·6		459	10·5	57·1	+0·4	17·1	+0·6
1387	413	9·0	9. 19. 1·6	−1·7	6. 59. 39·0	+0·5	1443	430	10·0	9. 40. 45·4	−0·2	6. 57. 20·2	−0·3
	426	9·0	2·6	+0·2	38·9	+0·4		454	10·0	45·4	−0·2	20·3	−0·2
	428	9·0	3·3	+1·5	37·6	−0·9		470	10·0	45·7	+0·4	20·9	+0·4
1393	410	8·5	9. 22. 12·9	−0·3	5. 33. 44·7	−0·2	1445	426	10·5	9. 41. 7·8	+0·2	7. 2. 27·1	−1·1
	426	9·0	13·3	+0·3	44·4	−0·5		431	10·5	8·4	+1·3	29·7	+1·5
	429	9·0	13·1	0·0	45·7	+0·8		439	10·5	6·9	−1·5	27·7	−0·5
1396	405	10·5	9. 22. 15·5	−0·4	5. 10. 31·1	+0·5	1446	410	10·0	9. 42. 14·6	−3·1	5. 24. 30·5	+1·6
	426	10·5	16·1	+0·4	29·6	−1·0		430	10·0	17·6	+1·1	25·8	−3·1
	429	10·5	15·7	−0·1	31·0	+0·4		459	10·0	18·2	+2·0	30·3	+1·4
1397	405	9·5	9. 22. 31·7	+0·1	5. 0. 4·9	+0·1	1451	410	7·0	9. 44. 39·6	0·0	5. 23. 17·2	+0·3
	416	10·0	31·4	−0·3	5·1	+0·3		430	7·0	40·4	+1·1	15·9	−1·0
	428	10·0	31·8	+0·3	4·4	−0·4		439	7·0	38·8	−1·1	17·6	+0·7
1398	410	9·5	9. 23. 1·2	+1·0	5. 36. 17·7	−0·1	1452	429	10·5	9. 44. 44·5	0·0	6. 5. 6·2	+2·2
	430	9·5	0·3	−0·3	17·5	−0·3		470	11·0	43·9	−1·0	1·1	−2·9
	431	9·5	0·1	−0·6	18·1	+0·3		471	11·0	45·0	+0·8	4·6	+0·6
1402	410	9·5	9. 23. 46·6	−0·3	5. 37. 46·6	−0·2	1453	410	10·0	9. 45. 11·6	+0·1	5. 11. 15·0	+0·1
	426	9·5	47·2	+0·6	48·8	+2·0		431	10·5	11·6	+0·1	14·3	−0·6
	429	9·5	46·7	−0·1	44·9	−1·9		439	10·5	11·2	−0·4	15·4	+0·5
1403	410	10·5	9. 23. 47·3	−0·5	4. 40. 11·1	−0·5	1455	471	10·5	9. 45. 19·7	−0·5	6. 52. 53·0	−2·6
	439	10·5	48·0	+0·4	11·4	−0·2		472	10·5	19·6	−0·7	56·7	+1·1
	453	11·0	47·9	+0·2	12·2	+0·6		473	10·5	20·7	+1·3	57·0	+1·4
1407	413	9·0	9. 24. 32·5	−0·5	6. 0. 53·9	0·0	1457	430	10·5	9. 47. 23·2	−0·5	6. 56. 6·2	+0·3
	430	9·0	32·7	−0·2	52·9	−1·0		454	10·5	23·8	+0·5	6·3	+0·4
	453	9·0	33·1	+0·5	54·8	+0·9		470	10·5	23·5	0·0	5·3	−0·6
1408	431	9·0	9. 25. 12·2	+0·3	5. 49. 58·3	+0·3	1459	471	11·0	9. 47. 29·1	−0·9	5. 47. 26·8	−1·6
	439	9·0	12·8	+1·2	58·2	+0·2		472	10·5	29·5	−0·3	29·1	+0·7
	454	9·0	11·1	−1·4	57·4	−0·6		473	10·5	30·6	+1·4	29·3	+0·9
1409	431	10·5	9. 25. 14·0	−1·2	5. 51. 16·3	+0·4	1464	431	10·5	9. 48. 11·4	−0·7	6. 19. 15·3	+0·9
	439	10·5	15·7	+1·4	15·5	−0·4		471	10·5	11·5	−0·5	13·2	−1·2
	454	10·5	14·6	−0·3	15·9	0·0		472	10·5	12·5	+1·2	14·6	+0·2
1410	405	8·5	9. 25. 23·5	−0·6	4. 51. 21·7	−0·2	1467	430	10·5	9. 51. 6·6	−0·4	7. 1. 13·0	−1·6
	459	9·0	24·2	+0·3	22·0	+0·1		454	10·5	6·9	+0·2	16·6	+2·0
	464	9·0	24·2	+0·3	21·9	0·0		470	10·5	7·0	+0·4	14·3	−0·3
1412	429	10·0	9. 27. 7·1	−0·4	5. 9. 56·2	−1·8	1468	405	10·0	9. 51. 19·6	+0·6	4. 50. 59·0	0·0
	453	10·0	7·6	+0·3	59·1	+1·1		410	10·0	19·3	+0·3	58·3	−0·7
	459	10·5	7·5	+0·1	58·6	+0·6		439	10·0	18·5	−0·8	59·8	+0·8
1414	405	9·0	9. 28. 23·5	+0·3	4. 57. 16·3	+0·3	1470	429	10·0	9. 52. 11·4	+1·0	6. 14. 44·1	−0·9
	410	9·0	23·4	+0·1	15·4	−0·6		431	10·0	10·6	−0·3	45·5	+0·5
	459	9·0	23·0	−0·4	16·4	+0·4		439	10·0	10·4	−0·7	45·5	+0·5

1356 on 589*. The s. f. of 2 stars.
1371 on 454. 10ˢ have been added to the observed R.A.
1446. The R.A. on 410, and the N.P.D. on 430, discordant.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
1474	413	8·5	9. 53. 3·8	−1·3	6. 53. 35·8	+0·3	1532	415	10·0	10. 11. 20·8	+0·4	6. 45. 42·3	−0·7
	426	8·0	4·8	+0·5	36·5	+1·0		459	10·5	20·7	+0·2	43·5	+0·5
	430	8·0	4·8	+0·5	34·3	−1·2		473	10·0	20·3	−0·5	43·3	+0·2
1475	426	10·0	9. 53. 27·6	+0·4	6. 38. 59·7	+1·4	1534	471	10·5	10. 11. 31·6	−0·3	6. 36. 45·9	−0·3
	430	10·0	27·4	0·0	56·5	−1·8		472	10·5	31·9	+0·2	46·8	+0·6
	454	10·0	27·3	−0·2	58·7	+0·4		473	10·5	31·9	+0·2	45·9	−0·3
1476	429	10·0	9. 53. 37·1	+1·0	6. 13. 6·2	−0·9	1537	430	9·0	10. 12. 15·0	+1·4	6. 35. 44·7	−1·5
	431	10·0	35·8	−1·1	7·9	+0·8		454	8·5	14·9	+1·2	46·4	+0·2
	454	10·0	36·5	0·0	7·2	+0·1		471	9·0	12·8	−2·4	47·4	+1·2
1479	426	10·5	9. 54. 59·6	+1·8	6. 18. 18·5	+2·5	1538	413	6·0	10. 12. 58·3	+0·2	6. 42. 27·8	+1·4
	431	10·5	58·7	+0·3	14·9	−1·1		429	6·0	57·7	−0·9	25·8	−0·6
	454	10·5	57·2	−2·2	14·6	−1·4		470	6·0	58·6	+0·7	25·5	−0·9
1480	405	10·5	9. 55. 57·2	−0·1	5. 36. 26·2	−0·5	1540	426	8·0	10. 13. 25·7	−1·2	4. 51. 50·6	−0·4
	410	10·5	56·7	−0·9	25·4	−1·3		431	8·5	27·0	+0·5	50·5	−0·5
	431	10·5	57·9	+0·9	28·4	+1·7		459	9·0	27·0	+0·5	52·0	+1·0
1482	410	10·5	9. 56. 51·1	−0·3	5. 55. 18·3	+0·1	1542	426	10·5	10. 14. 28·8	+0·2	4. 25. 36·0	+1·0
	430	10·5	51·5	+0·3	18·0	−0·2		454	10·5	27·2	−1·6	33·3	−1·7
	454	10·5	51·3	0·0	18·3	+0·1		469	10·5	29·8	+1·4	35·6	+0·6
1486	405	10·0	9. 57. 26·0	+0·8	4. 50. 46·9	+0·1	1546	426	10·5	10. 15. 4·0	−0·3	4. 57. 7·9	+0·9
	410	10·5	25·4	0·0	46·9	+0·1		431	10·5	4·2	0·0	7·1	+0·1
	429	10·5	24·8	−0·8	46·6	−0·2		470	10·5	4·4	+0·3	6·1	−0·9
1492	413	10·5	10. 0. 6·8	+0·2	6. 37. 43·2	+1·0	1551	429	10·0	10. 16. 42·4	+0·5	6. 9. 22·4	0·0
	430	10·5	6·8	+0·2	42·2	0·0		430	10·5	41·6	−0·8	21·8	−0·6
	431	10·5	6·5	−0·3	41·2	−1·0		439	10·0	42·4	+0·5	22·9	+0·5
1496	405	10·0	10. 1. 22·8	−0·6	4. 24. 60·3	+0·5	1553	430	10·5	10. 16. 54·0	+1·4	6. 40. 19·1	−0·1
	410	9·5	22·9	−0·5	59·9	+0·1		439	10·5	53·7	+0·9	20·0	+0·8
	430	10·0	24·1	+0·9	59·3	−0·5		471	10·5	52·0	−2·1	18·5	−0·7
1497	429	10·5	10. 2. 10·0	−0·5	6. 19. 32·4	+1·6	1554	415	10·5	10. 17. 15·4	+0·2	6. 53. 19·4	+0·3
	431	10·5	10·2	−0·2	29·0	−1·8		431	10·5	15·4	+0·2	20·2	+1·1
	454	10·5	10·6	+0·5	31·0	+0·2		454	10·0	15·1	−0·4	17·8	−1·3
1499	405	9·5	10. 2. 29·0	−0·5	4. 22. 25·4	+1·0	1555	413	10·5	10. 17. 22·1	−1·2	6. 50. 58·1	0·0
	410	9·0	28·6	−0·9	24·3	−0·1		415	10·5	23·0	+0·4	57·9	−0·2
	430	9·5	30·7	+1·5	23·6	−0·8		454	10·0	23·4	+1·1	58·4	+0·3
1500	429	10·0	10. 2. 33·8	−1·7	6. 57. 29·6	−0·2	1559	431	11·0	10. 22. 1·9	−2·1	5. 42. 10·3	−0·4
	439	10·0	35·3	+1·1	30·3	+0·5		453	10·5	3·4	+0·2	10·6	−0·1
	454	10·0	35·1	+0·7	29·5	−0·3		454	10·5	4·7	+2·1	11·3	+0·6
1503	429	8·0	10. 5. 21·7	+0·5	6. 28. 24·1	−0·2	1560	405	10·0	10. 22. 16·8	−1·2	4. 37. 49·4	+0·4
	431	9·0	21·0	−0·7	24·1	−0·2		426	10·0	18·0	+0·2	49·5	+0·5
	439	8·0	21·4	0·0	24·7	+0·4		430	10·0	18·6	+1·0	48·2	−0·8
1505	426	11·0	10. 5. 47·3	−0·4	5. 5. 48·6	+1·3	1561	415	10·0	10. 22. 21·4	+0·8	6. 20. 55·7	+1·2
	430	10·5	47·3	−0·4	46·2	−1·1		429	10·0	20·0	−1·5	54·0	−0·5
	454	10·5	48·1	+0·7	47·1	−0·2		439	10·0	21·3	+0·7	53·7	−0·8
1508	429	10·0	10. 6. 7·2	−0·7	6. 32. 21·3	−0·2	1565	431	10·5	10. 23. 50·7	−0·7	6. 48. 4·1	−1·3
	439	10·0	7·9	+0·5	21·6	+0·1		453	10·5	51·7	+1·1	6·6	+1·2
1509	405	10·0	10. 6. 13·8	−0·6	4. 33. 4·4	+0·1		454	10·0	50·9	−0·4	5·6	+0·2
	410	10·0	14·9	+0·7	5·1	+0·8	1566	405	9·0	10. 23. 56·3	−0·2	4. 30. 13·1	−0·2
	431	10·0	14·1	−0·2	3·3	−1·0		426	9·0	56·4	−0·1	14·3	+1·0
1510	413	10·0	10. 6. 21·9	−0·5	6. 41. 46·2	0·0		430	9·0	56·8	+0·4	12·4	−0·9
	415	10·0	22·3	+0·2	45·0	−1·2	1569	429	10·0	10. 24. 31·3	−1·1	5. 9. 51·1	−0·7
	459	10·0	22·7	+0·9	48·1	+1·9		431	10·5	32·2	+0·1	53·3	+1·5
	464	10·0	21·9	−0·5	45·6	−0·6		439	10·0	32·8	+1·0	51·0	−0·8
1513	426	10·0	10. 7. 3·6	+1·1	5. 6. 59·2	+0·1	1570	405	10·5	10. 24. 47·0	−0·4	4. 43. 46·3	+0·8
	430	10·5	3·3	+0·7	58·3	−0·8		426	10·5	48·0	+0·9	46·0	+0·5
	454	10·0	1·5	−1·7	59·9	+0·8		430	10·5	47·0	−0·4	44·2	−1·3
1514	429	10·5	10. 7. 20·6	−0·3	6. 26. 41·1	+0·4	1571	429	10·5	10. 24. 49·4	0·0	5. 49. 52·2	−0·2
	431	10·0	21·0	+0·3	39·8	−0·9		439	10·5	49·4	0·0	52·4	0·0
	472	10·0	20·7	−0·2	41·2	+0·5		454	10·5	49·4	0·0	52·6	+0·2
1515	464	10·5	10. 7. 27·3	+0·6	5. 17. 1·8	−0·3	1575	415	10·5	10. 26. 38·1	+0·9	6. 59. 12·5	−1·8
	469	10·5	26·8	−0·1	1·6	−0·5		453	10·5	36·6	−1·8	15·4	+1·1
	471	10·5	26·5	−0·6	2·8	+0·7		469	10·5	38·2	+1·1	15·0	+0·7
1516	405	7·0	10. 7. 49·3	+0·1	5. 0. 57·2	+0·4	1576	413	10·5	10. 26. 57·3	−2·8	7. 0. 9·7	+2·2
	410	6·0	48·3	−1·2	56·0	−0·8		453	10·5	59·7	+1·7	7·3	−0·2
	426	6·0	50·1	+1·2	57·1	+0·3		469	10·5	59·3	+0·9	5·5	−2·0
1518	459	9·5	10. 8. 6·8	+0·3	6. 4. 12·9	+1·0	1581	429	10·0	10. 29. 49·5	−2·0	5. 46. 15·3	+0·1
	470	9·5	6·3	−0·5	10·6	−1·3		439	10·0	51·4	+0·9	15·6	+0·4
	472	9·5	6·7	+0·2	12·1	+0·2		454	10·0	51·5	+1·1	14·8	−0·4
1521	413	10·0	10. 8. 43·8	+0·2	6. 54. 45·4	−0·9	1582	430	10·5	10. 30. 19·9	+1·1	5. 24. 17·2	−0·2
	470	9·5	43·5	−0·4	46·4	+0·1		453	10·5	18·0	−1·6	18·9	+1·5
	472	10·0	43·9	+0·4	47·1	+0·8		470	10·5	19·5	+0·6	16·1	−1·3
1522	454	10·5	10. 8. 44·3	+0·8	5. 22. 47·2	−0·6	1583	430	9·0	10. 32. 25·6	+0·5	6. 2. 11·5	+0·3
	469	10·5	43·6	−0·1	47·7	−0·1		439	9·5	25·3	0·0	11·7	+0·5
	471	10·5	43·3	−0·6	48·5	+0·7		470	9·0	24·9	−0·6	10·5	−0·7
1523	430	10·0	10. 8. 46·2	+1·9	6. 0. 27·9	−0·4	1584	430	10·5	10. 32. 49·9	+0·3	5. 43. 39·1	−0·4
	459	10·0	44·6	−0·6	28·7	+0·4		439	10·5	49·6	−0·2	39·6	+0·1
	470	10·0	44·3	−1·1	28·2	−0·1		454	10·0	49·5	−0·3	39·7	+0·2
1526	426	10·0	10. 9. 28·2	0·0	5. 47. 41·6	−1·5	1587	426	10·5	10. 34. 37·6	+0·9	6. 49. 17·3	+0·7
	439	10·0	28·4	+0·3	43·6	+0·5		454	10·5	36·4	−1·1	15·3	−1·3
	471	10·0	27·9	−0·5	44·1	+1·0		469	10·5	37·2	+0·4	17·3	+0·7
1529	431	9·5	10. 10. 4·1	+0·6	5. 42. 36·8	+0·8	1589	426	10·5	10. 35. 26·2	+0·4	6. 48. 2·1	−1·2
	439	9·5	4·0	+0·5	37·5	+1·5		454	10·5	25·2	−1·4	2·9	−0·4
	470	9·5	3·1	−0·9	33·7	−2·3		469	10·5	26·6	+1·1	4·9	+1·6

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1594	430	10·5	10. 36. 44·6	−1·6	6. 44. 18·1	+0·3
	454	10·5	45·5	0·0	17·4	−0·4
	471	11·0	46·3	+1·4	(34·0)	—
1595	426	10·5	10. 36. 46·1	+1·8	6. 55. 9·6	−0·6
	453	10·5	44·7	−0·7	11·6	+1·4
	471	10·5	44·5	−1·1	9·5	−0·7
1597	429	10·5	10. 37. 17·2	−0·3	6. 2. 33·1	−0·3
	439	10·0	17·7	+0·5	33·9	+0·5
	470	10·5	17·3	−0·2	33·3	−0·1
1599	429	10·5	10. 37. 52·2	−2·1	4. 20. 34·9	−2·8
	439	10·5	55·0	+1·1	39·3	+1·6
	453	10·5	54·9	+1·0	38·9	+1·2
1600	405	10·5	10. 37. 55·1	−0·6	4. 36. 0·9	−0·4
	431	10·5	56·0	+0·5	1·6	+0·3
	470	10·5	55·7	+0·1	1·5	+0·2
1605	426	9·0	10. 40. 40·3	+0·1	4. 52. 19·5	+0·3
	430	9·0	39·9	−0·4	19·4	+0·2
	431	9·0	40·5	+0·4	18·6	−0·6
1608	430	10·0	10. 42. 23·3	+0·2	5. 47. 13·0	−0·5
	431	10·0	22·5	−1·1	13·6	+0·1
	453	10·5	23·9	+1·1	14·0	+0·5
1612	426	10·5	10. 43. 30·4	+1·2	4. 57. 36·4	+1·5
	429	10·5	29·0	−0·7	33·0	−1·9
	430	10·5	29·1	−0·5	35·4	+0·5
1613	429	10·0	10. 43. 48·6	−0·1	4. 27. 21·1	+0·9
	430	10·0	48·2	−0·6	19·5	−0·7
	431	10·0	49·3	+0·7	20·0	−0·2
1619	413	9·5	10. 46. 52·4	−0·3	6. 0. 12·7	+2·4
	426	9·5	52·6	0·0	9·4	−0·9
	431	10·0	52·7	+0·2	8·9	−1·4
1624	426	10·5	10. 47. 40·0	−0·5	5. 1. 27·8	+1·3
	454	10·5	39·5	−1·2	25·0	−1·5
	464	10·5	41·6	+1·6	26·7	+0·2
1625	472	11·0	10. 47. 50·3	+0·5	6. 20. 18·2	+1·1
	473	11·0	50·4	+0·7	17·7	+0·6
	474	10·5	49·2	−1·3	15·3	−1·8
1626	429	10·5	10. 48. 0·9	−0·4	5. 29. 11·7	−0·8
	454	10·5	1·2	0·0	12·6	+0·1
	469	10·5	1·6	+0·4	13·2	+0·7
1629	413	10·5	10. 48. 54·5	−0·7	6. 19. 23·8	−1·1
	464	10·5	55·3	+0·7	25·5	+0·6
	469	10·0	55·0	+0·2	25·3	+0·4
1630	426	10·5	10. 49. 22·1	+0·4	6. 59. 45·6	+0·3
	430	10·5	21·8	−0·2	44·6	−0·7
	470	10·5	21·9	0·0	45·7	+0·4
1631	431	11·0	10. 49. 60·4	+0·3	6. 1. 13·9	+1·5
	470	11·0	59·5	−1·1	11·7	−0·7
	472	11·0	60·6	+0·6	11·6	−0·8
1632	471	10·5	10. 50. 13·6	+0·5	6. 20. 44·9	−1·6
	472	10·5	12·9	−0·7	47·6	+1·1
	473	10·5	13·3	0·0	46·9	+0·4
1641	426	9·5	10. 54. 12·3	−0·5	6. 28. 28·6	+0·7
	431	9·5	12·2	−0·7	27·9	0·0
	464	9·0	13·4	+1·4	27·2	−0·7
1643	426	10·0	10. 55. 6·4	−0·5	6. 7. 13·3	+0·6
	454	10·5	6·1	−1·0	12·0	−0·7
	469	10·0	7·5	+1·3	12·9	+0·2
1644	429	10·0	10. 55. 8·7	−0·7	5. 26. 28·3	+0·5
	454	10·0	9·0	−0·3	27·1	−0·7
	471	10·0	9·9	+1·0	27·9	+0·1
1647	454	10·5	10. 56. 49·7	−1·2	4. 36. 41·3	0·0
	469	10·5	52·0	+1·6	41·7	+0·4
	470	10·5	50·3	−0·5	41·0	−0·3
1648	472	10·5	10. 57. 5·8	0·0	6. 57. 11·2	−0·5
	473	11·0	5·2	−1·1	12·7	+1·0
	475	11·0	6·5	+1·3	11·3	−0·4
1649	429	10·0	10. 57. 22·4	−1·8	5. 43. 24·3	0·0
	471	10·0	24·5	+1·4	24·3	0·0
	472	10·0	23·8	+0·3	24·3	0·0
1650	413	10·5	10. 57. 43·2	+0·5	6. 46. 10·4	+3·0
	470	10·0	42·6	−0·5	4·6	−2·8
	472	10·0	42·8	−0·2	7·3	−0·1
1653	429	10·0	10. 59. 29·2	−0·4	4. 15. 17·6	+0·9
	430	10·5	30·6	+1·1	16·2	−0·5
	470	10·0	29·0	−0·7	16·3	−0·4
1654	470	10·5	10. 59. 39·9	−0·3	5. 25. 12·8	−0·3
	471	10·5	41·4	+1·9	12·8	−0·3
	473	10·5	39·0	−1·6	13·8	+0·7
1655	430	10·5	11. 0. 7·8	+0·9	4. 41. 11·4	−1·0
	454	10·0	6·0	−1·4	12·9	+0·5
	473	10·0	7·4	+0·4	12·8	+0·4
1656	454	10·0	11. 0. 33·0	+1·4	6. 35. 48·0	−1·6
	471	10·5	31·5	−1·2	50·8	+1·2
	474	10·0	32·2	0·0	49·9	+0·3
1657	426	10·0	11. 0. 59·5	−2·6	7. 0. 35·5	0·0
	472	9·5	62·4	+2·8	35·6	+0·1
	474	9·5	60·9	0·0	35·3	−0·2
1660	429	10·5	11. 1. 22·6	−1·4	4. 7. 13·4	−2·2
	471	10·5	24·5	+0·6	15·9	+0·3
	473	10·5	24·6	+0·8	17·4	+1·8
1661	426	10·5	11. 2. 31·1	+0·4	4. 52. 10·8	+2·1
	454	10·5	31·3	+0·6	9·1	+0·4
	470	10·5	30·0	−1·0	6·2	−2·5
1662	464	10·5	11. 2. 40·6	−1·9	4. 11. 33·4	−0·7
	469	10·5	42·2	−0·1	33·9	−0·2
	472	10·5	44·1	+2·0	35·0	+0·9
1665	464	10·0	11. 5. 8·4	+1·2	6. 31. 2·0	+0·3
	471	10·0	6·6	−1·9	1·1	−0·6
	473	10·0	8·1	+0·7	1·9	+0·2
1666	470	10·0	11. 5. 30·6	−0·9	6. 35. 46·1	−0·4
	472	10·0	31·5	+0·7	45·4	−1·1
	473	10·0	31·2	+0·2	47·9	+1·4
1668	429	9·0	11. 6. 30·7	−1·4	5. 51. 30·6	0·0
	430	9·0	31·4	−0·3	30·7	+0·1
	471	9·0	32·6	+1·5	30·5	−0·1
1670	454	10·5	11. 7. 3·0	+2·1	4. 43. 49·5	+0·2
	469	11·0	0·8	−0·6	49·5	+0·2
	470	11·0	0·0	−1·6	48·9	−0·4
1674	471	10·5	11. 8. 22·2	−0·2	5. 51. 9·8	−1·2
	472	10·5	22·6	+0·5	11·1	+0·1
	473	11·0	22·1	−0·3	12·2	+1·2
1675	454	10·0	11. 8. 34·8	0·0	6. 53. 36·5	−0·7
	464	10·0	34·8	0·0	37·2	0·0
	474	10·0	34·7	−0·2	37·9	+0·7
1678	450	10·5	11. 10. 35·9	+0·7	6. 23. 7·4	−0·3
	472	10·5	35·1	−0·7	7·7	0·0
	474	10·5	35·5	0·0	8·0	+0·3
1679	431	10·5	11. 10. 38·4	+0·8	4. 59. 32·9	+0·2
	470	10·5	37·1	−0·9	32·3	−0·4
	473	10·5	37·8	0·0	33·0	+0·3
1680	426	10·0	11. 10. 46·7	−0·2	4. 15. 49·5	−0·3
	429	10·0	46·1	−0·9	50·3	+0·5
	471	10·0	47·8	+1·0	49·6	−0·2
1682	454	10·0	11. 11. 33·2	−0·4	6. 55. 8·5	−0·4
	464	10·5	33·9	+0·9	8·4	−0·5
	474	10·5	33·0	−0·7	9·8	+0·9
1684	454	10·5	11. 12. 25·5	−0·5	6. 20. 34·0	−1·0
	470	10·5	26·4	+1·0	34·9	−0·1
	472	10·5	25·4	−0·7	36·2	+1·2
1693	426	10·5	11. 17. 48·0	0·0	5. 41. 34·8	−0·9
	430	10·5	48·5	+0·7	36·3	+0·6
	431	10·5	47·4	−0·9	36·0	+0·3
1697	429	10·5	11. 19. 31·6	0·0	6. 55. 33·4	+0·3
	431	10·5	30·9	−1·3	32·4	−0·7
	454	10·5	32·3	+1·3	33·4	+0·3
1700	426	8·5	11. 20. 1·5	−1·2	4. 29. 44·4	+1·0
	430	8·0	3·2	+0·8	42·7	−0·7
	450	8·5	2·7	+0·2	43·0	−0·4
1702	426	10·0	11. 20. 30·0	+1·5	5. 11. 50·8	+0·1
	450	10·0	28·5	−0·5	52·1	+1·4
	454	10·0	28·2	−1·0	49·3	−1·4
1704	429	10·0	11. 21. 4·0	−0·4	6. 38. 55·6	−0·4
	450	10·0	4·3	+0·2	56·0	0·0
	464	10·0	4·3	+0·2	56·5	+0·5
1709	431	10·0	11. 22. 22·5	−0·1	5. 31. 17·7	−0·6
	464	10·0	22·4	−0·3	18·2	−0·1
	469	10·0	22·8	+0·3	19·0	+0·7
1711	426	10·0	11. 23. 9·7	+1·0	4. 34. 32·6	+1·8
	430	10·0	7·8	−1·3	29·3	−1·5
	454	10·0	9·3	+0·5	30·6	−0·2
1713	429	10·5	11. 23. 47·0	−0·9	6. 33. 54·5	−1·1
	450	10·5	47·3	−0·3	55·5	−0·1
	470	10·5	48·3	+1·4	56·7	+1·1
1715	431	10·5	11. 24. 23·3	0·0	4. 16. 57·9	+1·1
	464	10·5	24·3	+1·1	54·9	−1·9
	470	11·0	22·2	−1·2	57·7	+0·9
1718	431	10·0	11. 25. 16·7	−0·8	6. 10. 48·2	+0·5
	454	10·0	16·9	−0·5	48·0	+0·3
	471	10·0	18·1	+1·5	47·0	−0·7
1722	430	10·5	11. 27. 39·4	+2·2	4. 26. 13·1	−0·2
	454	10·5	36·0	−1·7	13·9	+0·6
	470	10·5	37·2	−0·4	13·0	−0·3

1594 on 471. Probably not bisected by accident.
1619. S. p. star of a Double.
1643. S. f. star of a Double.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	"	° ′ ″	"				h m s	"	° ′ ″	"
1729	430	10·5	11. 29. 39·3	+0·3	4. 7. 11·3	+1·4	1798	430	10·5	12. 0. 9·4	+1·0	5. 16. 63·7	+1·7
	450	10·5	38·6	−0·4	10·9	+1·0		431	10·5	8·9	+0·3	63·1	+1·1
	470	10·5	39·1	+0·1	7·5	−2·4		469	10·5	7·9	−1·1	59·3	−2·7
1730	426	10·5	11. 29. 39·7	−0·6	4. 56. 28·1	+0·7	1801	454	10·5	12. 1. 11·2	−1·1	6. 42. 51·9	−0·3
	454	10·5	40·1	−0·1	27·1	−0·3		464	10·5	12·1	+0·5	52·4	+0·2
	468	10·5	40·8	+0·8	27·0	−0·4		470	10·5	12·0	+0·4	52·2	0·0
1735	426	10·0	11. 31. 0·1	−2·1	4. 55. 34·1	+1·5	1802	450	10·5	12. 1. 60·6	+0·2	6. 45. 28·7	−0·1
	454	10·0	2·6	+1·2	32·0	−0·6		470	10·5	59·8	−1·2	28·3	−0·5
	468	10·0	2·4	+0·9	31·7	−0·9		475	10·5	61·0	+0·9	29·4	+0·6
1739	429	10·5	11. 31. 57·0	+0·9	5. 37. 8·5	−1·1	1803	470	10·5	12. 2. 5·2	−2·8	5. 52. 30·8	−1·8
	431	10·5	56·7	+0·4	8·8	−0·8		471	10·5	8·2	+1·9	34·3	+1·7
	469	10·5	55·6	−1·2	11·5	+1·9		472	10·5	7·7	+0·8	32·8	+0·2
1740	430	10·0	11. 32. 42·9	−1·1	5. 24. 39·0	−0·2	1805	450	10·5	12. 3. 3·9	0·0	5. 54. 47·5	−1·0
	450	10·0	43·6	−0·1	39·2	0·0		472	10·5	4·4	+0·8	48·9	+0·4
	471	10·0	44·6	+1·3	39·4	+0·2		473	10·5	3·5	−0·6	49·2	+0·7
1743	426	10·5	11. 33. 54·6	−0·4	5. 0. 56·2	+1·2	1806	471	10·5	12. 3. 45·5	−0·2	5. 56. 6·2	−0·8
	431	10·5	55·1	+0·3	54·9	−0·1		472	10·5	47·7	+3·3	4·6	−2·4
	470	10·5	55·0	+0·1	54·0	−1·0		473	11·0	43·6	−3·1	10·1	+3·1
1746	426	9·5	11. 34. 42·7	+0·5	5. 45. 52·4	+0·9	1808	464	9·0	12. 4. 35·8	+0·6	4. 6. 49·5	+0·1
	429	9·5	42·3	−0·2	50·8	−0·7		468	9·0	34·2	−1·1	49·1	−0·3
	454	9·5	42·1	−0·5	51·2	−0·3		474	9·5	35·6	+0·4	49·5	+0·1
1747	429	9·0	11. 34. 54·6	−0·5	6. 52. 26·9	−0·1	1809	464	9·5	12. 4. 41·8	−0·6	4. 15. 13·7	+0·3
	430	9·0	54·8	−0·2	26·9	−0·1		468	10·0	42·9	+0·7	13·2	−0·2
	450	9·0	55·3	+0·7	27·2	+0·2		474	10·0	42·1	−0·2	13·3	−0·1
1751	429	10·5	11. 37. 34·4	−0·5	6. 7. 4·0	−0·5	1815	469	10·5	12. 5. 31·7	+0·2	6. 24. 27·1	+0·1
	430	10·5	34·6	−0·2	3·5	−1·0		472	10·5	31·5	−0·2	26·3	−0·7
	431	10·5	35·4	+1·1	5·1	+0·6		475	10·0	31·7	+0·2	27·6	+0·6
	454	10·5	34·5	−0·3	5·2	+0·7	1817	450	10·0	12. 6. 46·7	−1·2	5. 53. 34·1	−0·4
1752	426	10·5	11. 37. 37·1	+0·5	5. 6. 12·8	+0·2		470	10·0	47·8	+0·5	34·8	+0·3
	431	10·5	36·2	−0·7	12·0	−0·6		475	10·0	48·0	+0·8	34·5	0·0
	450	10·5	36·8	+0·1	12·9	+0·3	1818	472	9·0	12. 6. 49·3	0·0	5. 41. 25·5	+0·4
1757	426	10·0	11. 41. 23·0	−0·4	4. 23. 56·9	+0·2		474	9·0	49·4	+0·2	25·2	+0·1
	431	10·0	22·4	−1·0	55·7	−1·0		477	9·0	49·2	−0·2	24·6	−0·5
	468	10·0	24·6	+1·5	57·5	+0·8	1821	470	11·0	12. 7. 33·1	−0·2	5. 56. 59·4	−1·0
1758	431	10·5	11. 41. 38·3	−0·8	6. 7. 46·3	+1·4		473	11·0	32·6	−0·9	61·9	+1·5
	454	11·0	39·1	+0·5	42·9	−2·0		475	10·5	34·0	+1·3	60·0	−0·4
	464	10·5	39·0	+0·3	45·5	+0·6	1822	464	10·5	12. 8. 53·8	+0·7	5. 5. 17·6	−0·5
1759	426	9·5	11. 41. 41·1	−0·7	4. 11. 35·6	+0·2		471	10·5	53·4	+0·1	18·2	+0·1
	464	9·5	41·7	0·0	34·4	−1·0		474	10·5	52·8	−0·7	18·4	+0·3
	468	9·5	42·2	+0·6	36·1	+0·7	1826	454	10·5	12. 10. 33·3	+1·1	4. 46. 50·2	+0·2
1761	464	9·5	11. 42. 18·1	+0·5	6. 31. 38·9	−0·4		468	10·5	30·8	−2·0	49·8	−0·2
	469	9·5	16·9	−1·5	39·9	+0·6		472	10·5	33·1	+0·9	50·0	0·0
	470	9·5	18·4	+1·0	39·1	−0·2	1829	450	9·5	12. 12. 14·8	−0·3	4. 54. 7·7	+0·2
1763	426	10·0	11. 44. 41·4	−0·2	6. 0. 42·3	+1·7		454	10·0	15·3	+0·4	8·6	+1·1
	430	10·0	42·5	+1·6	39·8	−0·8		468	10·0	15·0	0·0	6·3	−1·2
	469	10·5	40·5	−1·6	39·6	−1·0	1831	454	10·5	12. 13. 4·4	+0·3	5. 58. 45·1	−0·3
1764	431	10·5	11. 44. 54·0	−1·9	6. 25. 50·0	−0·6		469	10·5	4·0	−0·3	45·6	+0·2
	450	10·5	57·5	+4·1	49·9	−0·7		474	10·5	4·1	−0·2	45·5	+0·1
	454	10·5	53·8	−2·2	52·0	+1·4	1832	472	10·5	12. 13. 14·6	−0·7	6. 56. 13·2	−0·5
1766	426	10·5	11. 45. 5·9	+0·2	6. 0. 41·9	+1·6		473	11·0	14·9	−0·2	14·2	+0·5
	430	10·0	5·5	−0·5	39·7	−0·6		475	10·5	15·4	+0·7	13·7	0·0
	469	10·5	6·0	+0·3	39·2	−1·1	1833	471	10·0	12. 14. 16·2	+0·2	6. 13. 4·5	−0·5
1771	426	10·0	11. 49. 36·2	−0·2	6. 22. 15·2	+0·8		473	10·0	16·0	−0·2	5·2	+0·2
	429	10·0	36·0	−0·5	14·2	−0·2		474	10·0	16·2	+0·2	5·3	+0·3
	430	10·0	36·6	+0·5	13·9	−0·5	1836	450	9·0	12. 14. 54·1	+1·1	5. 49. 15·5	+0·5
1773	426	10·0	11. 50. 12·2	+0·6	7. 0. 42·2	+1·2		468	9·0	52·6	−1·2	14·9	−0·1
	431	10·0	11·5	−0·7	41·0	0·0		475	9·0	53·4	0·0	14·7	−0·3
	450	10·0	12·1	+0·4	39·8	−1·2	1840	471	10·5	12. 16. 11·6	−0·4	6. 39. 45·5	−1·7
1779	426	10·0	11. 51. 42·4	+1·4	4. 8. 25·3	−0·3		473	11·0	12·0	+0·1	49·1	+1·9
	431	9·5	40·7	−0·4	26·5	+0·9		475	10·5	12·0	+0·1	47·1	−0·1
	454	10·5	40·3	−0·9	25·1	−0·5	1841	450	10·0	12. 17. 16·1	−0·7	6. 32. 17·7	+0·5
1780	430	10·0	11. 51. 53·6	+0·8	6. 8. 7·4	−0·3		471	10·0	16·9	+0·7	16·7	−0·5
	450	10·0	53·0	−0·2	7·0	−0·7		477	9·5	16·4	−0·2	17·1	−0·1
	464	10·0	52·7	−0·6	8·8	+1·1	1842	472	10·5	12. 17. 50·9	+1·7	4. 14. 15·1	−1·7
1781	429	10·0	11. 51. 53·6	0·0	6. 26. 55·6	+0·1		473	11·0	47·3	−2·3	19·6	+2·8
	430	10·0	53·4	−0·3	55·4	−0·1		474	10·5	49·9	+0·6	15·6	−1·2
	468	10·0	53·7	+0·2	(70·2)	—	1843	464	9·5	12. 18. 1·4	+0·1	5. 32. 32·7	+0·2
1785	429	10·5	11. 53. 24·9	+0·4	4. 58. 24·1	+0·5		469	9·5	1·5	+0·3	33·0	+0·5
	450	10·5	24·2	−0·5	23·0	−0·6		486	9·5	1·1	−0·3	31·7	−0·8
	464	10·5	24·6	0·0	23·7	+0·1	1844	454	10·5	12. 18. 28·7	−1·4	4. 22. 16·9	+0·4
1786	426	10·0	11. 53. 33·0	−1·0	4. 12. 37·1	+0·5		472	10·5	31·0	+1·3	16·3	−0·2
	431	10·0	32·5	−0·4	37·6	+1·0		485	10·5	29·9	0·0	16·3	−0·2
	454	10·5	30·7	+1·5	35·0	−1·6	1846	474	10·0	12. 19. 9·2	0·0	6. 22. 34·8	−0·2
1790	430	9·5	11. 55. 50·9	+0·3	5. 48. 37·4	−1·2		477	10·0	9·2	0·0	34·8	−0·2
	431	9·5	50·3	−0·6	38·9	+0·3		489	10·0	9·1	−0·2	35·4	+0·4
	468	9·5	51·0	+0·5	39·4	+0·8	1847	468	9·0	12. 19. 16·8	−0·5	5. 46. 1·9	−0·5
1792	426	10·5	11. 57. 3·9	+0·4	4. 42. 28·5	+0·9		486	9·0	17·3	+0·3	2·0	−0·4
	454	10·5	3·5	−0·1	27·3	−0·3		489	9·0	17·3	+0·3	3·4	+1·0
	470	10·5	3·5	−0·1	27·0	−0·6	1848	470	11·0	12. 19. 17·4	−0·1	5. 9. 41·3	−1·8
1794	430	10·5	11. 57. 22·9	+1·5	5. 45. 29·9	+0·4		475	11·0	16·5	−1·4	43·3	+0·2
	431	10·5	20·7	−1·8	30·4	+0·9		492	11·0	18·6	+1·5	46·4	+3·3
	470	10·5	22·2	+0·5	28·1	−1·4							

1781 on 468. The bisection was probably omitted by inadvertence.
1848 on 492. Faint. Half weight given to the N.P.D.

Univ. of California

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1851	475	11·0	12. 19. 40·1	+1·4	5. 17. 14·2	+0·4
	485	11·0	39·1	0·0	14·2	+0·4
	486	10·5	38·2	−1·3	13·1	−0·7
1852	450	10·0	12. 19. 38·6	−1·4	6. 31. 50·0	−0·8
	471	10·0	40·3	+1·6	50·9	+0·1
	477	10·0	39·3	−0·2	51·4	+0·6
1853	454	10·5	12. 21. 26·8	+0·3	6. 58. 58·0	+0·6
	471	10·5	26·7	0·2	56·9	−0·5
	477	10·5	26·2	−0·7	57·3	−0·1
1856	464	9·5	12. 22. 11·2	+1·1	5. 19. 18·6	+0·9
	470	9·5	9·9	−0·7	17·3	−0·4
	471	9·5	10·0	−0·6	17·1	−0·6
1857	472	10·5	12. 22. 53·3	−0·7	6. 28. 45·3	+0·2
	474	11·0	53·6	−0·2	44·8	−0·3
	475	11·0	54·1	+0·7	45·2	+0·1
1867	450	10·5	12. 29. 31·3	+0·3	5. 44. 44·7	+1·1
	469	10·5	30·8	−0·5	45·1	+1·5
	470	10·0	31·1	0·0	41·1	−2·5
1871	454	10·0	12. 31. 35·1	+0·2	4. 31. 11·3	+0·8
	464	10·0	34·7	−0·2	11·0	+0·5
	471	10·0	34·9	0·0	9·2	−1·3
1872	470	10·0	12. 33. 28·2	−0·9	6. 36. 52·4	+0·1
	472	10·0	29·0	+0·5	51·7	−0·6
	474	10·0	28·8	+0·2	52·7	+0·4
1873	471	10·5	12. 33. 38·8	−2·2	5. 57. 18·6	+0·4
	472	10·5	39·9	−0·5	16·6	−1·6
	473	11·0	41·8	+2·5	19·3	+1·1
1874	454	10·0	12. 34. 27·1	−0·9	4. 27. 57·5	−0·5
	464	10·0	27·8	−0·1	57·9	−0·1
	477	10·0	28·8	+1·1	58·6	+0·6
1876	472	11·0	12. 35. 15·7	+0·6	4. 6. 49·8	−1·7
	474	11·0	16·0	+1·0	51·8	+0·3
	475	11·0	13·5	−1·7	53·0	+1·5
1877	470	10·5	12. 35. 25·0	0·0	5. 43. 47·1	+0·1
	471	10·5	25·2	+0·3	46·9	−0·1
	475	10·5	24·9	−0·2	47·0	0·0
1878	468	10·5	12. 35. 28·3	−1·0	5. 34. 17·3	+0·9
	473	10·0	29·4	+0·6	16·8	+0·4
	474	10·0	29·2	+0·3	15·1	−1·3
1880	454	10·0	12. 36. 17·1	−0·2	4. 30. 38·7	−0·7
	464	10·5	17·5	+0·2	40·1	+0·7
	477	10·0	17·4	+0·1	39·4	0·0
1881	469	10·5	12. 36. 47·3	+0·6	5. 37. 33·3	0·0
	470	10·5	45·6	−1·9	33·2	−0·1
	473	10·5	47·9	+1·5	33·3	0·0
1882	454	10·5	12. 37. 12·8	−1·7	5. 21. 16·1	−0·4
	471	10·5	14·5	+0·7	17·2	+0·7
	477	10·5	14·7	+1·0	16·3	−0·2
1883	468	9·0	12. 37. 13·2	−0·6	5. 33. 35·6	+0·6
	472	8·0	14·3	+1·0	35·0	0·0
	485	9·0	13·2	−0·6	34·5	−0·5
1887	464	10·5	12. 39. 54·8	−0·1	4. 20. 40·3	+1·6
	471	10·0	55·6	+0·8	38·3	−0·4
	474	10·0	54·4	−0·6	37·5	−1·2
1890	470	11·0	12. 40. 48·1	−0·6	6. 58. 31·8	−1·4
	472	10·5	48·6	+0·4	32·1	−1·1
	473	11·0	48·5	+0·2	38·3	+5·1
1892	464	10·5	12. 41. 8·1	−0·8	6. 19. 16·1	+0·6
	469	10·5	9·7	+1·8	15·0	−0·5
	474	10·5	8·0	−1·0	15·4	−0·1
1894	471	10·5	12. 41. 54·0	+1·2	6. 45. 25·8	−0·3
	472	10·5	52·7	−1·1	27·0	+0·9
	475	10·5	53·2	−0·2	25·4	−0·7
1899	464	10·0	12. 43. 48·2	−0·2	6. 50. 23·9	+0·5
	470	10·0	48·4	+0·2	22·3	−1·1
	474	10·0	48·4	+0·2	24·1	+0·7
1900	471	10·5	12. 43. 48·8	+0·6	5. 45. 18·9	−0·6
	472	10·5	49·0	+0·9	18·2	−1·3
	473	10·5	47·4	−1·5	23·5	+4·0
1909	454	10·0	12. 46. 3·2	−1·0	4. 56. 27·9	+0·1
	469	10·5	3·9	−0·1	28·2	+0·4
	474	10·0	4·8	+1·0	27·3	−0·5
1911	470	10·5	12. 47. 10·3	+0·2	6. 42. 40·9	+4·0
	472	11·0	10·8	+1·1	35·1	−1·8
	475	10·5	9·6	−1·1	34·7	−2·2
1912	471	10·0	12. 47. 11·7	−0·5	6. 46. 48·0	−1·8
	472	10·0	12·0	0·0	51·0	+1·2
	475	10·0	12·3	+0·5	50·4	+0·6
1913	454	7·0	12. 47. 59·7	+0·5	5. 47. 36·0	−0·6
	473	7·0	58·3	−1·7	38·1	+1·5
	477	7·0	60·1	+1·1	35·7	−0·9
1914	454	6·0	12. 48. 7·8	+0·9	5. 47. 54·9	+0·2
	473	6·0	6·6	−0·9	55·1	+0·4
	477	6·0	7·1	−0·2	54·2	−0·5
1916	464	10·0	12. 48. 22·5	+0·2	6. 41. 35·9	+0·5
	470	10·0	22·3	−0·2	34·9	−0·5
	472	10·0	22·5	+0·2	35·3	−0·1
1917	473	10·5	12. 48. 48·6	+0·2	6. 32. 39·4	−0·2
	474	10·5	47·7	−1·4	40·1	+0·5
	475	10·0	49·3	+1·4	39·3	−0·3
1920	471	10·5	12. 51. 4·6	−0·3	6. 35. 16·6	−1·0
	474	10·5	5·0	+0·3	18·2	+0·6
	475	10·5	4·8	0·0	17·9	+0·3
1921	450	8·0	12. 52. 46·0	+0·5	6. 41. 47·7	−0·7
	454	8·0	45·2	−0·9	49·3	+0·9
	464	8·0	45·8	+0·2	48·2	−0·2
1923	471	9·5	12. 52. 55·4	0·0	7. 3. 34·7	0·0
	472	10·0	55·2	−0·4	34·7	0·0
	475	9·5	55·7	+0·6	34·6	−0·1
1925	464	10·0	12. 53. 10·6	−0·2	5. 59. 36·8	−0·4
	472	10·0	10·6	−0·2	37·4	+0·2
	477	10·0	11·0	+0·5	37·4	+0·2
1926	470	10·5	12. 53. 32·0	+0·1	5. 26. 46·6	−0·5
	473	10·5	31·3	−0·9	47·8	+0·7
	474	10·5	32·3	+0·6	46·8	−0·3
1927	450	9·5	12. 53. 38·5	−0·7	4. 30. 49·2	−0·9
	473	10·0	37·8	−1·5	50·7	+0·6
	475	10·0	40·9	+2·1	50·5	+0·4
1928	471	10·0	12. 53. 58·9	0·0	4. 44. 8·9	−1·1
	472	10·5	58·7	−0·2	11·6	+1·6
	474	10·0	59·1	+0·2	9·5	−0·6
1933	471	11·0	12. 56. 26·3	−1·6	5. 54. 20·0	−0·7
	474	10·5	27·7	+0·6	21·3	+0·6
	477	10·5	28·0	+1·1	20·7	0·0
1935	454	11·0	12. 57. 49·9	+0·5	6. 28. 27·0	+0·4
	464	10·5	48·9	−1·2	27·1	+0·5
	475	10·5	49·9	+0·5	25·8	−0·8
1937	469	10·0	12. 58. 42·9	−0·3	6. 19. 30·1	−0·3
	474	10·0	43·6	+0·8	31·1	+0·7
	477	10·0	42·9	−0·3	30·0	−0·4
1938	450	9·0	12. 58. 51·3	0·0	6. 17. 2·5	+0·2
	469	9·5	50·9	−0·7	2·0	−0·3
	485	9·5	51·8	+0·8	2·3	0·0
1939	472	10·5	12. 59. 48·1	+1·1	6. 50. 44·4	−0·6
	475	10·5	46·8	−1·3	45·5	+0·5
	486	10·5	47·5	0·0	45·2	+0·2
1941	472	11·0	13. 0. 27·9	+1·3	5. 26. 56·6	−0·1
	477	10·5	27·0	0·0	57·2	+0·5
	489	11·0	26·0	−1·4	56·3	−0·4
1942	464	10·0	13. 1. 21·4	+0·6	4. 38. 7·0	+0·8
	485	10·0	22·0	+1·3	5·3	−0·9
	488	10·0	19·4	−1·8	6·3	+0·1
1945	471	9·5	13. 1. 59·3	+0·7	4. 57. 46·4	−0·5
	485	9·5	58·9	+0·1	46·3	−0·6
	488	9·5	58·2	−0·8	48·1	+1·2
1946	477	10·5	13. 2. 10·7	+1·9	5. 31. 52·9	−1·2
	486	10·5	8·6	−1·2	54·1	0·0
	489	11·0	8·8	−0·9	55·3	+1·2
1947	473	10·5	13. 2. 31·3	−1·7	6. 21. 26·1	−1·1
	475	10·0	32·5	+0·3	28·0	+0·8
	486	10·0	33·1	+1·5	27·4	+0·2
1948	485	10·5	13. 3. 9·5	+0·7	4. 43. 23·9	−0·3
	486	10·5	9·8	+1·1	23·4	−0·8
	492	11·0	5·8	−3·9	26·6	+2·4
1955	472	11·0	13. 5. 7·3	+2·1	4. 57. 60·6	+0·2
	477	10·5	5·1	−0·8	60·8	+0·4
	492	11·0	4·6	−1·4	59·8	−0·6
1956	464	9·0	13. 5. 6·3	+0·4	5. 35. 27·8	+0·7
	486	9·0	6·1	+0·1	26·7	−0·4
	489	9·0	5·5	−0·7	26·8	−0·3
1957	469	11·0	13. 5. 10·2	0·0	5. 29. 21·0	+1·0
	475	10·5	10·3	+0·1	19·5	−0·5
	492	11·0	10·2	0·0	19·5	−0·5
1958	454	10·5	13. 6. 9·3	−0·7	5. 13. 33·0	0·0
	474	10·5	9·3	−0·7	32·7	−0·3
	475	10·5	10·8	+1·4	33·2	+0·2
1960	464	10·5	13. 8. 16·5	−1·3	5. 40. 23·6	+1·2
	474	10·5	18·3	+1·3	22·5	+0·1
	477	10·5	17·4	0·0	22·3	−0·1
	485	10·5	17·3	−0·1	21·0	−1·4
1962	470	10·5	13. 9. 11·2	−1·1	5. 56. 34·7	−1·0
	473	10·5	12·7	+1·2	37·6	+1·9
	486	10·5	11·9	0·0	34·7	−1·0

1890 and 1900 on 473. Bad bisections. Half weight.
1938. Suspected on 450, and seen on 469 to be Double. The mean observed. The star is Struve 1720. Distance of components at 1832·78=1″·625.
1948 on 492. Illseen. Half weight to both elements.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
1965	464	10·0	13. 10. 36·7	+0·9	5. 33. 48·6	−0·8	2023	450	8·5	13. 27. 55·0	+0·5	5. 56. 39·5	+1·0
	474	9·5	35·9	−0·3	49·6	+0·2		473	8·5	54·5	−0·3	38·3	−0·2
	488	9·5	35·7	−0·6	50·1	+0·7		477	9·0	54·5	−0·3	37·6	−0·9
1966	477	10·5	13. 10. 44·7	+0·7	6. 59. 58·5	+0·3	2024	471	10·5	13. 28. 2·0	−0·8	5. 46. 46·0	+0·3
	485	11·0	43·2	−2·0	58·0	−0·2		474	10·5	2·3	−0·3	45·2	−0·5
	486	10·5	45·1	+1·5	58·1	−0·1		475	10·5	3·1	+0·9	46·0	+0·3
1969	471	10·0	13. 11. 48·4	+1·6	6. 37. 51·8	+0·2	2032	470	10·5	13. 30. 49·1	+0·7	6. 49. 16·6	−0·6
	474	10·0	47·5	0·0	51·4	−0·2		472	10·5	48·6	−0·2	17·3	+0·1
	489	10·0	46·6	−1·6	51·6	0·0		474	10·5	48·5	−0·4	17·6	+0·4
1970	472	10·0	13. 11. 52·3	+0·8	5. 51. 5·3	+0·1	2033	471	10·5	13. 31. 38·1	−1·0	6. 22. 17·4	+0·3
	486	10·0	52·5	+1·1	4·9	−0·3		474	10·5	37·7	−1·7	17·0	−0·1
	489	10·0	50·7	−1·7	5·4	+0·2		475	10·5	40·3	+2·7	17·0	−0·1
1971	464	10·0	13. 12. 0·6	−1·1	6. 59. 56·2	+0·4	2035	454	10·5	13. 32. 6·9	−1·4	6. 48. 41·6	+0·9
	473	10·0	1·9	+1·3	56·9	+1·1		472	10·5	8·0	+0·5	39·6	−1·1
	485	10·0	1·2	0·0	54·3	−1·5		474	10·5	8·3	+1·1	40·8	+0·1
1974	471	10·0	13. 12. 24·6	+1·7	6. 34. 24·4	0·0	2037	454	10·5	13. 32. 51·9	−1·4	6. 45. 35·8	−0·8
	489	10·0	23·1	−0·9	24·0	−0·4		470	10·5	53·1	+0·7	37·3	+0·7
	492	10·0	23·0	−1·0	24·7	+0·3		472	10·5	53·0	+0·5	36·8	+0·2
1975	454	10·0	13. 12. 29·9	−1·1	5. 3. 10·0	0·0	2044	471	10·5	13. 35. 42·7	−0·9	4. 42. 50·8	+2·8
	475	10·0	31·3	+0·8	10·5	+0·5		472	10·5	41·1	−2·9	46·3	−1·7
	488	10·0	30·9	+0·3	9·6	−0·4		474	11·0	46·5	+3·8	47·0	−1·0
1976	477	10·5	13. 12. 34·3	+1·1	6. 8. 59·0	−1·6	2047	475	10·5	13. 36. 22·8	−1·1	4. 26. 35·8	+0·3
	488	10·5	33·7	+0·2	61·0	+0·4		477	10·5	25·5	+2·1	36·0	+0·5
	492	10·5	32·7	−1·5	61·7	+1·1		485	10·5	22·9	−0·9	34·7	−0·8
1983	464	10·0	13. 15. 36·1	+0·2	6. 57. 20·1	+0·8	2049	454	10·5	13. 36. 59·0	−2·2	4. 38. 21·7	+0·2
	471	10·5	35·7	−0·6	19·2	−0·1		471	10·5	60·8	0·0	21·9	+0·4
	475	10·5	36·2	+0·4	18·7	−0·6		472	10·5	62·7	+2·3	20·9	−0·6
1986	454	11·0	13. 16. 31·7	−0·1	4. 26. 34·6	+0·3	2051	471	10·5	13. 38. 21·6	−0·7	4. 31. 0·6	−0·2
	472	11·0	32·4	+0·7	34·0	−0·3		475	10·5	22·2	0·0	1·5	+0·7
	474	11·0	31·4	−0·5	34·4	+0·1		477	11·0	22·7	+0·6	0·2	−0·6
1989	450	10·0	13. 17. 9·1	−0·2	6. 22. 37·1	−0·2	2055	464	10·5	13. 40. 24·3	+1·6	4. 44. 48·0	+0·7
	471	10·0	9·3	+0·2	36·6	−0·7		469	10·5	21·4	−2·0	48·9	+1·6
	473	10·0	9·2	0·0	38·2	+0·9		470	10·5	22·5	−0·6	45·6	−1·7
1990	464	10·5	13. 17. 13·0	−0·6	4. 53. 57·9	+0·2		471	10·5	23·9	+1·1	46·6	−0·7
	472	10·5	13·9	+0·5	57·0	−0·7	2056	454	10·5	13. 40. 36·1	−0·3	5. 15. 3·8	−1·2
	477	10·5	13·6	+0·1	58·1	+0·4		474	10·5	36·1	−0·3	6·9	+1·9
1991	470	10·5	13. 17. 14·1	+0·5	6. 18. 11·4	−0·9		486	10·5	36·6	+0·4	4·4	−0·6
	474	10·5	13·5	−0·5	12·3	0·0	2057	474	11·0	13. 40. 40·4	+2·7	6. 2. 30·8	+0·1
	485	10·5	13·8	0·0	13·3	+1·0		477	11·0	38·9	+0·3	31·7	+1·0
1992	475	11·0	13. 17. 25·3	0·0	5. 34. 30·9	+0·5		485	11·0	36·7	−3·2	29·7	−1·0
	477	11·0	25·5	+0·3	29·7	−0·7	2060	472	10·0	13. 41. 49·6	−0·7	6. 37. 52·3	−0·9
	485	11·0	25·2	−0·1	30·6	+0·2		473	10·0	51·0	+1·7	54·5	+1·3
1995	450	9·5	13. 18. 37·2	−0·4	5. 19. 54·1	−1·1		486	10·0	49·5	−0·9	52·9	−0·3
	469	10·0	37·6	+0·1	56·3	+1·1	2062	472	10·5	13. 42. 10·5	+2·2	6. 18. 23·6	−0·3
	473	9·5	37·6	+0·1	55·2	0·0		475	10·5	8·5	−1·2	23·1	−0·8
1998	464	10·5	13. 19. 57·9	0·0	5. 38. 19·5	+1·5		485	10·5	8·7	−0·8	25·0	+1·1
	471	10·5	57·6	−0·4	17·3	−0·7	2071	454	10·0	13. 43. 61·3	+0·6	4. 30. 54·7	+0·3
	477	10·5	58·3	+0·6	17·2	−0·8		471	10·0	62·1	+1·5	54·9	+0·5
1999	464	10·5	13. 19. 60·0	+0·1	4. 9. 26·6	−0·6		475	10·0	59·1	−2·0	53·5	−0·9
	472	10·5	60·2	+0·3	26·8	−0·4	2072	470	10·5	13. 44. 11·7	−0·3	6. 31. 24·4	−1·6
	475	10·0	59·6	−0·3	28·3	+1·1		473	10·5	12·5	+1·0	27·7	+1·7
2000	471	10·5	13. 20. 7·4	+0·5	4. 47. 24·6	−1·0		477	10·5	11·6	−0·5	25·8	−0·2
	474	10·5	6·4	−0·8	27·3	+1·7	2078	470	10·5	13. 46. 21·9	−0·3	4. 46. 57·4	−0·4
	486	10·5	7·3	+0·4	24·8	−0·8		474	10·5	23·0	+1·1	58·4	+0·6
2001	454	8·0	13. 20. 40·3	+0·2	4. 29. 14·4	+1·2		475	10·5	21·4	−0·9	57·6	−0·2
	472	8·0	39·7	−0·5	13·4	+0·2	2080	469	7·0	13. 46. 42·1	−0·2	6. 31. 14·6	+0·5
	485	8·0	40·3	+0·2	11·9	−1·3		470	6·0	42·1	−0·2	12·8	−1·3
2006	450	8·5	13. 21. 52·9	−0·4	5. 20. 33·1	+0·5		473	7·0	42·5	+0·5	14·8	+0·7
	469	9·0	53·3	+0·1	33·5	+0·9	2081	471	10·5	13. 46. 48·3	+0·5	5. 50. 55·2	−1·7
	473	9·0	53·3	+0·1	31·2	−1·4		474	10·5	48·4	+0·6	56·9	0·0
2008	470	10·5	13. 22. 29·2	+1·2	5. 49. 48·4	−0·7		477	10·5	47·4	−0·9	58·5	+1·6
	471	10·0	28·2	−0·3	48·8	−0·3	2086	464	10·5	13. 50. 51·3	−0·4	6. 45. 9·1	−0·5
	485	10·0	27·9	−0·8	50·0	+0·9		470	10·5	51·7	+0·4	11·0	+1·4
2010	454	10·0	13. 22. 43·2	−0·6	4. 31. 20·2	+0·5		471	10·5	51·4	−0·2	8·8	−0·8
	472	10·5	44·9	+1·4	19·3	−0·4	2090	464	10·5	13. 54. 27·3	−1·5	6. 58. 29·3	+0·4
	477	10·0	42·9	−0·9	19·6	−0·1		471	10·5	28·7	+1·1	28·8	−0·1
2013	454	9·5	13. 23. 51·1	−0·3	4. 16. 31·4	+1·0		474	10·5	28·4	+0·6	28·7	−0·2
	464	10·0	51·1	−0·3	28·7	−1·7	2092	473	9·0	13. 54. 46·1	+0·1	4. 46. 11·2	+0·5
	475	9·5	52·0	+0·7	31·1	+0·7		475	9·0	46·5	+0·6	10·3	−0·4
2014	470	10·0	13. 24. 7·1	+0·2	5. 45. 49·1	−1·3		477	9·0	45·4	−0·8	10·6	−0·1
	475	10·0	6·9	−0·2	51·2	+0·8	2093	464	10·0	13. 55. 29·6	+0·5	5. 10. 12·7	−0·6
	485	10·0	6·9	−0·2	51·0	+0·6		469	10·5	29·6	+0·5	14·7	+1·4
2018	454	9·5	13. 25. 42·9	−1·3	4. 12. 23·3	−1·2		477	10·0	28·5	−1·0	12·4	−0·9
	472	10·0	44·8	+0·8	25·2	+0·7	2094	471	10·5	13. 55. 52·1	0·0	6. 24. 35·9	−0·4
	473	9·5	44·7	+0·7	25·0	+0·5		473	10·5	52·3	+0·3	35·5	−0·8
2019	450	10·5	13. 25. 44·1	−0·5	6. 6. 25·4	+3·4		474	10·5	51·9	−0·3	37·6	+1·3
	474	10·5	43·9	−0·8	20·6	−1·4	2095	471	10·5	13. 55. 54·0	−1·5	6. 22. 30·8	−1·3
	477	10·5	45·3	+1·4	20·0	−2·0		474	10·5	55·4	+0·8	32·7	+0·6
2022	469	9·5	13. 27. 11·0	+0·2	5. 47. 6·4	+0·8		475	11·0	55·3	+0·7	32·8	+0·7
	470	9·5	10·7	−0·3	5·7	+0·1	2099	464	10·5	13. 57. 18·1	+0·3	5. 18. 20·8	−0·5
	471	9·0	11·1	+0·3	4·6	−1·0		473	10·5	19·0	+1·5	21·0	−0·3
								477	10·5	16·5	−1·9	22·2	+0·9

1969 on 471. 10ˢ have been taken off the observed R.A.
1992 on 477. 10″ have been taken off the circle-reading.
2044 on 474. The counting appears to be 5ˢ too great. The star may not however have been properly seen.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2105	469	10·5	13. 58. 21·7	−1·7	6. 20. 35·6	−0·9
	471	10·0	22·6	−0·2	36·9	+0·4
	474	10·0	23·8	+1·8	37·1	+0·6
2110	464	10·5	14. 0. 8·9	−0·7	5. 13. 18·8	+3·4
	471	10·5	9·4	0·0	15·8	+0·4
	473	11·0	9·9	+0·7	11·5	−3·9
2118	464	11·0	14. 4. 2·9	+0·7	6. 56. 15·7	+0·8
	471	11·0	2·2	−0·5	14·1	−0·8
	474	11·0	2·3	−0·4	14·9	0·0
2119	464	10·5	14. 4. 33·4	+0·9	6. 56. 10·1	+0·3
	471	10·5	33·2	+0·5	10·5	+0·7
	474	10·5	32·0	−1·6	8·9	−0·9
2123	464	11·0	14. 6. 21·6	−0·4	6. 56. 19·3	+0·8
	471	—	21·8	0·0	18·9	+0·4
	474	11·0	22·0	+0·4	17·2	−1·3
2131	464	10·5	14. 9. 24·3	−0·5	6. 20. 0·1	−0·8
	470	10·5	24·2	−0·7	1·5	+0·6
	473	10·5	25·4	+1·3	1·1	+0·2
2137	464	10·5	14. 11. 55·7	+1·4	6. 1. 43·8	+1·0
	470	10·0	54·9	+0·2	42·5	−0·3
	474	10·5	53·7	−1·7	42·0	−0·8
2141	464	10·5	14. 13. 19·5	+0·6	5. 51. 44·2	−0·7
	470	10·0	18·8	−0·5	44·3	−0·6
	477	10·0	19·1	0·0	46·1	+1·2
2142	471	10·5	14. 14. 40·9	+0·3	4. 56. 14·6	−0·1
	474	10·5	41·2	+0·6	15·4	+0·7
	486	10·5	40·1	−0·8	14·0	−0·7
2143	470	10·5	14. 14. 48·8	−1·1	4. 59. 34·2	−0·8
	473	10·0	50·5	+1·2	35·8	+0·8
	477	10·5	49·4	−0·3	34·9	−0·1
2144	471	11·0	14. 14. 59·5	−0·5	6. 35. 11·9	−0·7
	474	11·0	60·4	+1·0	14·1	+1·5
	477	10·5	59·5	−0·5	11·9	−0·7
2146	470	10·5	14. 15. 37·1	−3·0	6. 43. 7·4	−0·5
	473	10·5	39·8	+1·8	7·5	−0·4
	486	10·5	39·4	+1·1	8·7	+0·8
2153	464	10·0	14. 19. 56·4	+0·7	6. 56. 52·8	+1·7
	470	10·5	55·1	−1·7	49·9	−1·2
	472	10·0	56·4	+0·7	50·5	−0·6
2158	464	10·5	14. 21. 57·8	+0·2	6. 52. 10·8	+0·2
	470	10·5	57·5	−0·4	9·1	−1·5
	818	10·5	57·9	+0·4	11·8	+1·2
2159	471	10·5	14. 22. 23·1	−0·1	4. 38. 30·8	−0·2
	472	10·5	22·6	−0·7	30·0	−1·0
	473	10·5	23·9	+0·9	32·3	+1·3
2163	472	10·5	14. 24. 34·9	0·0	6. 44. 58·2	+0·8
	818	10·5	34·7	−0·4	57·3	−0·1
	819	10·5	35·1	+0·4	56·6	−0·8
2165	470	9·0	14. 25. 23·8	−0·9	5. 23. 36·3	−0·1
	471	9·0	24·4	0·0	35·7	−0·7
	473	9·0	25·0	+0·9	37·3	+0·9
2168	472	11·0	14. 25. 54·2	+0·2	6. 0. 24·9	+0·5
	474	11·0	53·9	−0·3	26·0	+1·6
	477	10·5	54·2	+0·2	22·3	−2·1
2170	470	10·0	14. 26. 41·0	−0·4	4. 46. 27·5	−0·2
	471	10·0	41·2	−0·1	27·2	−0·5
	473	9·5	41·7	+0·5	28·5	+0·8
2177	471	9·5	14. 29. 37·1	−0·5	6. 36. 27·4	+0·1
	472	9·5	37·7	+0·5	26·7	−0·6
	473	9·5	37·3	−0·2	27·8	+0·5
2185	470	10·5	14. 33. 18·4	+0·2	4. 33. 22·6	−0·7
	471	10·0	17·4	−1·0	23·9	+0·6
	472	10·5	18·7	+0·6	23·4	+0·1
2187	470	10·5	14. 34. 41·7	+0·6	5. 16. 34·1	−0·4
	473	10·0	40·9	−0·6	35·1	+0·6
	474	10·0	41·4	+0·1	34·4	−0·1
2189	473	10·5	14. 34. 55·2	−1·5	5. 33. 22·4	+0·1
	509	11·0	57·1	+1·3	22·2	−0·1
2190	472	10·5	14. 35. 20·9	−2·0	6. 53. 12·5	−1·2
	474	10·5	22·3	+0·5	15·0	+1·3
	477	10·5	22·7	+1·2	13·7	0·0
2193	472	9·5	14. 35. 55·1	−0·4	6. 48. 23·5	−0·5
	477	9·5	55·3	0·0	25·2	+1·2
	509	9·5	55·4	+0·2	23·2	−0·8
2196	473	9·5	14. 36. 35·5	+1·6	5. 38. 4·2	+0·3
	486	9·5	33·6	−1·2	2·9	−1·0
	507	10·0	34·1	−0·4	4·6	+0·7
2202	472	10·5	14. 37. 48·3	+2·6	6. 57. 12·7	+0·9
	474	10·5	46·0	−1·7	10·5	−1·3
	477	10·5	46·4	−0·9	12·3	+0·5
2206	471	9·5	14. 40. 7·4	−0·6	5. 54. 37·3	+0·2
	477	9·5	8·2	+0·6	36·8	−0·3
	507	9·5	7·7	−0·2	37·3	+0·2
2207	477	10·0	14. 40. 8·0	−0·2	5. 53. 18·8	+2·1
	485	9·5	8·5	+0·6	16·3	−0·4
	486	10·0	7·7	−0·6	15·1	−1·6
2210	473	11·0	14. 40. 55·7	+1·0	6. 13. 59·0	−0·1
	474	10·5	54·4	−1·1	60·0	+0·9
	486	10·5	55·2	+0·2	58·4	−0·7
2211	471	10·5	14. 41. 16·2	+0·8	6. 25. 11·6	−0·6
	477	10·5	15·1	−1·0	12·4	+0·2
	507	10·5	15·9	+0·3	12·6	+0·4
2213	474	10·5	14. 41. 56·5	+0·5	6. 29. 39·1	+1·5
	486	10·5	56·3	+0·2	36·2	−1·4
	507	10·5	55·9	−0·5	37·4	−0·2
2216	470	10·5	14. 43. 8·6	−0·8	6. 13. 19·2	+0·5
	472	10·5	9·0	−0·2	19·1	+0·4
	473	10·5	9·7	+1·0	17·8	−0·9
2220	471	10·5	14. 45. 3·3	+0·4	7. 0. 4·8	−1·6
	472	10·5	3·1	0·0	6·8	+0·4
	474	10·5	2·9	−0·4	7·5	+1·1
2222	472	9·0	14. 45. 62·2	+2·9	6. 55. 6·8	+1·3
	474	9·0	60·2	−0·7	4·4	−1·1
	485	9·5	59·4	−2·2	5·2	−0·3
2223	477	10·5	14. 46. 42·4	+0·5	5. 4. 20·8	0·0
	486	10·0	42·3	+0·4	20·9	+0·1
	526	10·0	41·2	−1·1	20·8	0·0
2224	526	10·5	14. 47. 0·5	−0·6	5. 48. 2·5	−0·3
	682*	11·0	1·5	+0·9	2·3	−0·5
	718*	10·5	0·8	−0·2	3·5	+0·7
2227	486	10·5	14. 47. 40·1	+0·4	6. 47. 16·6	−2·2
	676*	10·5	39·5	−0·7	19·5	+0·7
	717*	10·5	40·1	+0·4	20·4	+1·6
2228	470	10·5	14. 48. 6·1	+1·6	4. 26. 54·4	+0·3
	676*	10·5	5·1	+0·5	54·8	+0·7
	719*	11·0	3·0	−2·0	53·2	−0·9
2229	473	10·0	14. 48. 5·7	−0·7	6. 16. 1·7	−0·2
	534	10·0	6·6	+0·8	1·9	0·0
	719*	10·5	6·1	0·0	2·1	+0·2
2232	472	10·0	14. 48. 59·5	+1·3	6. 55. 37·9	+0·2
	474	10·0	58·2	−1·1	37·6	−0·1
	683*	10·0	58·8	0·0	37·7	0·0
2234	473	10·0	14. 49. 7·7	0·0	6. 9. 50·7	+0·1
	509	10·5	7·9	+0·3	49·8	−0·8
	534	10·0	7·6	−0·2	51·2	+0·6
2235	470	10·5	14. 49. 12·2	+0·4	4. 34. 41·7	−0·4
	526	10·5	11·0	−1·1	41·5	−0·6
	718*	10·5	12·4	+0·6	43·1	+1·0
2236	477	10·5	14. 49. 13·8	+1·3	4. 49. 5·2	+0·3
	718*	10·5	12·4	−0·5	5·7	+0·8
	719*	10·5	12·1	−0·9	3·9	−1·0
2237	472	10·5	14. 49. 40·7	+1·0	5. 22. 35·4	+1·5
	526	10·5	39·0	−1·4	33·8	−0·1
	682*	10·5	40·2	+0·3	32·4	−1·5
2238	486	10·5	14. 50. 30·5	+1·0	5. 35. 9·5	−3·7
	509	10·5	28·8	−1·5	16·2	+3·0
	717*	10·5	30·0	+0·3	13·8	+0·6
2241	471	10·0	14. 50. 59·3	+0·3	6. 29. 24·9	−0·1
	474	10·0	58·2	−1·5	24·4	−0·6
	535	10·0	59·8	+1·2	25·8	+0·8
2243	472	10·0	14. 51. 12·9	+0·6	5. 31. 17·5	+0·9
	486	10·0	13·0	+0·7	14·5	−2·1
	717*	10·0	11·5	−1·5	17·8	+1·2
2244	471	10·0	14. 51. 24·2	+0·9	6. 39. 2·6	−0·2
	474	10·0	23·4	−0·5	2·9	+0·1
	534	9·5	23·6	−0·2	2·8	0·0
2245	473	10·5	14. 51. 42·4	+1·1	5. 0. 13·4	0·0
	526	10·5	41·4	−0·3	13·2	−0·2
	683*	10·5	41·0	−0·8	13·5	+0·1
2247	470	10·0	14. 53. 16·4	−0·7	4. 31. 30·5	−0·7
	472	9·5	18·3	+1·5	31·7	+0·5
	477	10·0	16·2	−1·0	31·5	+0·3
2249	470	10·5	14. 54. 56·1	+0·2	6. 25. 31·2	−2·0
	473	10·5	57·0	+1·7	35·1	+1·9
	474	11·0	55·0	−1·7	33·3	+0·1
2257	470	10·0	14. 57. 51·3	−1·9	7. 1. 57·7	−1·4
	472	10·0	52·6	+0·6	59·4	+0·3
	473	10·0	52·9	+1·1	60·3	+1·2
2261	470	7·0	15. 0. 26·2	−0·9	6. 53. 44·9	−0·2
	472	7·0	26·9	+0·4	45·1	0·0
	473	6·0	26·9	+0·4	45·3	+0·2
2266	470	9·5	15. 3. 10·2	−0·8	4. 6. 54·1	−0·2
	471	9·5	11·3	+0·4	53·9	−0·4
	473	10·0	11·2	+0·3	54·8	+0·5

2110. N.P.Ds discordant. Too faint for satisfactory observation.
2123. N. f. of 2 stars. 2210. S. f. star of a Double.
2238. The N.P.Ds disagree. The star was very faint.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2267	471	10·0	15. 5. 53·0	−1·3	6. 3. 15·4	+0·6
	473	10·0	53·9	+0·2	15·4	+0·6
	474	10·0	54·4	+1·0	13·6	−1·2
2271	472	9·0	15. 6. 47·4	+0·7	5. 29. 20·3	+0·1
	473	8·0	47·6	+1·0	20·1	−0·1
	475	9·0	45·7	−1·7	20·1	−0·1
2272	474	11·0	15. 7. 47·3	−0·7	6. 12. 41·9	−1·2
	475	10·5	47·6	−0·2	41·4	−1·7
	477	11·0	48·1	+0·7	46·0	+2·9
2274	472	10·5	15. 8. 28·9	+0·7	5. 34. 27·6	−0·4
	473	10·5	27·7	−1·0	28·2	+0·2
	474	10·5	28·7	+0·4	28·1	+0·1
2276	472	10·5	15. 10. 5·0	−0·7	5. 14. 9·5	+0·5
	474	10·5	5·7	+0·3	9·3	+0·3
	486	10·5	5·7	+0·3	8·2	−0·8
2277	473	10·5	15. 10. 21·1	+0·2	6. 58. 35·6	+0·8
	475	10·5	20·4	−1·1	34·9	+0·1
	526	10·5	21·4	+0·7	33·9	−0·9
2279	474	11·0	15. 11. 40·3	−0·8	5. 54. 59·0	−0·1
	486	10·5	41·6	+1·2	57·4	−1·7
	683*	10·5	40·4	−0·6	61·0	+1·9
2280	473	10·0	15. 11. 44·7	+1·0	6. 27. 19·4	+0·7
	526	10·0	43·7	−0·7	18·5	−0·2
	535	10·0	43·9	−0·3	18·2	−0·5
2281	477	9·0	15. 11. 45·6	−0·5	6. 15. 0·8	−0·5
	525	9·5	46·4	+0·8	1·5	+0·2
	534	9·0	45·6	−0·5	1·7	+0·4
2283	472	9·0	15. 12. 36·2	+1·1	5. 24. 45·0	−0·5
	534	9·0	35·0	−0·6	45·8	+0·3
	698*	9·0	35·1	−0·4	45·8	+0·3
2284	475	10·5	15. 12. 42·8	−2·1	6. 6. 6·0	−0·3
	526	11·0	44·6	+0·8	6·3	0·0
	693*	10·5	45·0	+1·4	6·7	+0·4
2286	475	10·0	15. 12. 59·9	+1·1	6. 7. 1·0	−0·2
	526	10·0	58·9	−0·5	0·4	−0·8
	693*	10·0	58·8	−0·6	2·1	+0·9
2287	474	11·0	15. 13. 10·8	−1·1	5. 54. 42·7	+1·6
	486	10·5	10·7	−1·2	40·6	−0·5
	698*	11·0	13·1	+2·5	40·0	−1·1
2288	472	10·0	15. 13. 37·8	+0·4	5. 30. 15·1	+0·2
	486	10·0	37·5	0·0	14·1	−0·8
	534	10·0	37·2	−0·4	15·5	+0·6
2291	473	8·0	15. 15. 47·6	+0·5	6. 37. 41·2	+0·2
	475	8·0	47·0	−0·5	41·1	+0·1
	525	8·5	47·4	+0·2	40·6	−0·4
2293	472	9·0	15. 16. 39·0	+1·7	4. 19. 13·9	+0·1
	477	8·0	36·4	−1·1	14·7	+0·9
	486	9·0	37·1	−0·5	12·9	−0·9
2296	473	10·0	15. 17. 4·9	+0·6	6. 1. 45·5	−0·2
	475	10·0	4·4	−0·2	45·3	−0·4
	534	10·0	4·3	−0·3	46·4	+0·7
2298	472	10·5	15. 17. 42·2	+1·6	4. 24. 9·2	+0·2
	474	10·5	41·1	+0·3	8·1	−0·9
	526	10·5	39·1	−2·0	9·7	+0·7
2299	472	10·0	15. 17. 59·3	+1·5	4. 23. 3·3	−0·1
	474	10·0	57·0	−1·2	3·0	−0·4
	526	10·0	57·6	−0·5	3·8	+0·4
2302	486	10·5	15. 19. 7·3	+0·4	6. 42. 16·8	−1·9
	525	10·0	7·5	+0·7	20·0	+1·3
	534	10·0	6·4	−1·2	19·4	+0·7
2304	477	10·5	15. 19. 33·4	+0·1	4. 46. 59·0	+0·9
	526	10·5	33·6	+0·4	57·7	−0·4
	535	10·0	32·8	−0·6	57·5	−0·6
2306	477	10·5	15. 22. 5·9	−0·7	6. 41. 7·5	−0·3
	486	10·5	6·6	+0·5	7·2	−0·6
	534	10·5	6·3	0·0	8·7	+0·9
2313	472	10·5	15. 23. 48·1	+1·9	4. 9. 9·3	+0·7
	486	10·5	45·7	−0·8	6·8	−1·8
	526	11·0	45·4	−1·1	9·7	+1·1
2314	474	10·5	15. 25. 24·2	−0·6	4. 55. 9·2	+1·1
	475	10·5	24·2	−0·6	8·3	+0·2
	486	10·5	25·8	+1·4	6·9	−1·2
2315	477	10·5	15. 25. 54·2	+1·2	6. 32. 16·7	+0·4
	485	10·5	53·9	+0·7	15·2	−1·1
	526	11·0	51·2	−4·0	17·1	+0·8
2319	474	10·0	15. 27. 24·2	0·0	5. 31. 36·5	+0·2
	485	10·0	25·1	+1·3	36·0	−0·3
	526	10·0	23·3	−1·3	36·5	+0·2
2323	475	10·5	15. 28. 51·7	+0·6	5. 57. 31·8	+0·6
	477	10·5	49·6	−2·7	31·8	+0·6
	486	10·5	52·7	+2·2	30·0	−1·2

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2329	474	10·0	15. 29. 44·1	−0·1	4. 31. 26·2	+0·6
	475	10·0	43·4	−0·9	26·0	+0·4
	485	10·0	45·0	+0·9	24·7	−0·9
2338	474	10·0	15. 33. 40·0	−0·2	4. 43. 29·2	+0·5
	475	10·0	40·4	+0·2	29·1	+0·4
	485	10·0	40·1	−0·1	27·8	−0·9
2341	474	10·0	15. 34. 61·6	+1·5	6. 24. 56·7	−0·3
	477	10·0	60·7	0·0	58·7	+1·7
	486	10·0	59·7	−1·7	55·6	−1·4
2342	474	9·0	15. 35. 5·3	0·0	5. 38. 16·9	−0·1
	477	9·0	5·1	−0·3	18·4	+1·4
	485	9·0	5·6	+0·4	15·8	−1·2
2344	474	10·5	15. 36. 27·6	+1·9	4. 37. 38·5	+0·4
	475	10·5	24·9	−1·3	38·2	+0·1
	485	10·5	25·6	−0·5	37·6	−0·5
2346	475	10·5	15. 36. 49·2	+0·2	7. 0. 30·0	−0·2
	477	10·5	49·0	−0·2	32·7	+2·5
	486	10·5	49·2	+0·2	28·0	−2·2
2354	474	10·0	15. 39. 20·8	−1·3	5. 34. 28·8	−0·2
	485	10·0	21·1	−0·9	29·5	+0·5
	486	10·0	23·1	+2·1	28·6	−0·4
2357	475	10·5	15. 41. 32·4	+0·6	7. 0. 59·8	+1·0
	486	11·0	31·8	−0·6	57·6	−1·2
	517	11·0	32·2	+0·2	59·1	+0·3
2362	474	10·5	15. 42. 60·2	+0·1	5. 40. 38·1	+0·7
	475	10·5	59·8	−0·4	37·4	0·0
	485	10·5	60·3	+0·3	36·6	−0·8
2371	475	10·5	15. 46. 24·7	−0·4	4. 33. 52·6	−0·3
	477	10·5	24·7	−0·4	53·7	+0·8
	486	11·0	25·6	+0·7	52·4	−0·5
2372	474	10·0	15. 46. 25·6	−0·3	4. 58. 38·8	−0·8
	517	10·5	24·9	−1·2	39·6	0·0
	525	10·5	26·8	+1·3	40·5	+0·9
2373	474	9·0	15. 46. 36·0	−0·1	5. 1. 10·6	+1·0
	485	9·5	36·3	+0·3	8·9	−0·7
	517	9·0	35·9	−0·3	9·4	−0·2
2379	475	10·0	15. 49. 55·5	−1·3	4. 40. 50·1	+0·3
	486	10·0	57·7	+1·3	49·0	−0·8
	526	10·5	56·6	0·0	50·2	+0·4
2380	475	8·0	15. 50. 14·4	−0·9	4. 42. 16·5	+0·3
	486	8·0	15·6	+0·6	15·7	−0·5
	525	8·0	15·2	+0·1	16·3	+0·1
2381	477	9·5	15. 50. 33·3	−0·2	6. 43. 41·9	−0·5
	517	9·5	34·0	+1·1	41·7	−0·7
	534	9·5	32·8	−1·1	43·6	+1·2
2382	474	10·0	15. 50. 33·6	−0·3	4. 50. 17·7	−0·6
	517	10·0	34·2	+0·5	18·3	0·0
	534	10·0	33·7	−0·1	19·0	+0·7
2386	477	10·5	15. 51. 41·0	−2·4	6. 26. 58·3	−0·9
	534	10·5	43·5	+1·9	60·1	+0·9
	535	10·5	42·8	+0·7	59·2	0·0
2387	477	10·0	15. 52. 13·5	+0·2	6. 19. 6·3	−1·5
	526	10·0	13·2	−0·3	9·0	+1·2
	535	10·0	13·6	+0·3	8·1	+0·3
2388	477	10·0	15. 52. 18·6	0·0	6. 19. 39·3	−2·0
	526	10·5	18·7	+0·2	41·1	−0·2
	535	10·0	18·6	0·0	43·4	+2·1
2389	486	10·5	15. 52. 34·7	+0·3	5. 15. 8·8	−1·0
	517	10·5	34·2	−0·4	10·2	+0·4
	538	10·5	34·5	0·0	10·3	+0·5
2390	526	10·5	15. 53. 31·3	+0·4	6. 50. 46·6	−0·4
	534	10·5	31·0	−0·2	47·6	+0·6
	535	10·5	31·1	0·0	46·9	−0·1
2395	474	10·0	15. 55. 9·8	−0·4	4. 38. 45·9	−0·2
	475	9·5	10·1	0·0	46·7	+0·6
	486	10·0	10·3	+0·2	45·8	−0·3
2401	475	9·0	15. 58. 2·9	−1·3	6. 16. 40·0	+0·1
	477	9·5	4·4	+1·2	40·2	+0·3
	517	9·5	3·6	−0·2	39·8	−0·1
	535	9·0	4·0	+0·5	39·5	−0·4
2403	474	9·5	15. 58. 40·8	−0·2	4. 18. 41·1	0·0
	486	9·5	42·1	+1·2	39·9	−1·2
	525	10·0	40·2	−0·9	42·2	+1·1
2404	475	9·0	15. 58. 48·3	−0·2	6. 37. 16·9	0·0
	517	9·0	48·5	+0·2	16·9	0·0
	526	9·0	48·3	−0·2	16·8	−0·1
2407	475	10·5	15. 59. 46·8	−0·4	6. 41. 4·3	−0·6
	477	10·5	48·1	+1·9	5·6	+0·7
	517	10·5	46·2	−1·4	4·8	−0·1
2408	474	10·5	16. 0. 31·2	+0·9	5. 37. 9·7	−0·8
	486	10·5	30·7	+0·1	10·2	−0·3
	526	10·5	30·0	−0·9	11·7	+1·2

2298 on 474. Suspected to be a close Double.
2315 on 526. R.A. considered unsatisfactory. Half weight.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	"	° ′ ″	"
2413	474	10·5	16. 4. 2·0	+1·0	4. 41. 9·0	−2·5
	517	10·5	0·8	−0·5	13·9	+2·4
	534	10·5	0·7	−0·6	11·7	+0·2
2414	475	10·5	16. 4. 8·4	+0·7	6. 17. 60·7	+0·7
	526	10·5	7·8	−0·3	60·1	+0·1
	535	10·5	7·7	−0·5	59·2	−0·8
2416	475	9·0	16. 4. 24·1	+0·2	6. 18. 36·0	−0·2
	526	9·5	23·8	−0·3	36·6	+0·4
	535	9·5	24·1	+0·2	36·1	−0·1
2417	517	10·5	16. 4. 39·7	+0·2	4. 10. 32·4	−0·3
	534	10·5	39·5	0·0	31·3	−1·4
	538	10·5	39·2	−0·3	34·5	+1·8
2418	535	9·5	16. 4. 53·8	+0·5	6. 46. 54·4	+0·6
	545	9·0	53·7	+0·4	53·8	0·0
	549	9·5	53·1	−0·7	53·1	−0·7
2419	477	10·5	16. 5. 11·2	+1·6	6. 3. 20·4	0·0
	534	10·5	10·0	−0·3	20·5	+0·1
	538	10·5	9·5	−1·1	20·3	−0·1
2422	535	10·5	16. 6. 31·2	−0·2	6. 23. 2·9	−0·7
	550	10·5	32·4	+1·8	3·5	−0·1
	669*	10·5	30·3	−1·7	4·3	+0·7
2423	517	8·0	16. 6. 35·3	+0·3	4. 17. 18·8	−1·2
	545	8·0	35·7	+0·8	19·0	−1·0
	682*	8·0	34·0	−1·1	19·9	−0·1
2424	525	9·0	16. 7. 0·4	−0·3	5. 58. 9·5	+0·2
	549	9·5	0·9	+0·5	8·4	−0·9
	676*	9·0	0·4	−0·3	9·9	+0·6
2426	541	9·5	16. 7. 44·0	−1·1	5. 0. 32·7	+0·6
	550	9·5	45·5	+0·9	32·1	0·0
	676*	9·5	44·9	+0·1	31·4	−0·7
2427	535	10·5	16. 7. 46·7	+0·2	6. 45. 4·2	+0·1
	669*	10·5	46·3	−0·5	3·8	−0·3
	682*	10·5	46·7	+0·2	4·4	+0·3
2430	538	10·5	16. 8. 30·2	−0·3	6. 29. 21·0	−1·1
	683*	11·0	30·2	−0·3	23·6	+1·5
	698*	10·5	30·8	+0·7	21·7	−0·4
2432	517	10·5	16. 9. 8·3	+0·2	4. 20. 23·1	−0·6
	550	10·5	8·7	+0·7	23·9	+0·2
	698*	10·5	7·2	−1·0	24·1	+0·4
2434	534	10·5	16. 9. 13·3	−0·6	6. 2. 15·9	+0·8
	693*	11·0	14·5	+1·3	15·5	+0·4
	698	10·5	13·4	−0·5	14·0	−1·1
2435	541	10·5	16. 9. 36·8	−1·6	5. 59. 34·4	+0·5
	682*	10·5	38·6	+1·3	33·2	−0·7
	693*	10·5	38·1	+0·5	34·2	+0·3
2436	535	10·0	16. 10. 16·0	−0·9	6. 31. 13·3	+0·4
	545	10·0	16·5	0·0	11·7	−1·2
	676*	10·0	17·0	+0·9	13·8	+0·9
2437	538	9·5	16. 10. 40·8	−1·3	6. 54. 20·6	+0·1
	549	9·5	42·4	+1·6	20·6	+0·1
	683*	10·5	41·3	−0·4	20·2	−0·3
2439	517	10·0	16. 11. 9·7	−0·4	5. 41. 52·0	−0·4
	543	10·0	9·5	−0·8	53·5	+1·1
	549	10·0	10·8	+1·2	51·7	−0·7
2440	541	10·5	16. 11. 15·3	−0·7	6. 15. 44·2	−1·3
	669*	10·5	15·1	−1·0	45·0	−0·5
	683*	10·5	16·6	+1·5	47·3	+1·8
2443	509	10·5	16. 12. 54·4	−1·0	6. 21. 12·1	−0·7
	526	10·5	55·9	+1·7	13·6	+0·8
	535	10·5	54·7	−0·5	12·7	−0·1
2446	517	10·0	16. 15. 43·5	+0·5	6. 15. 24·5	−1·7
	526	10·5	42·5	−1·2	26·9	+0·7
	534	10·0	43·7	+0·8	27·1	+0·9
2448	509	8·5	16. 18. 6·0	+0·3	6. 13. 11·5	+0·5
	517	8·0	5·3	−0·8	10·6	−0·4
	534	8·5	6·1	+0·5	11·0	0·0
2453	517	10·5	16. 19. 35·8	+1·0	6. 8. 25·9	−0·7
	526	10·5	35·8	+1·0	26·6	0·0
	534	10·5	34·0	−1·9	27·4	+0·8
2455	534	10·5	16. 20. 33·2	−0·6	5. 23. 6·9	+0·5
	535	10·5	33·9	+0·4	6·3	−0·1
	541	10·5	33·6	0·0	6·1	−0·3
2457	509	10·5	16. 21. 25·0	0·0	6. 13. 4·0	+0·5
	517	10·5	23·9	−1·8	1·5	−2·0
	538	10·5	26·1	+1·8	5·0	+1·5
2460	509	11·0	16. 23. 59·1	+0·1	6. 12. 45·8	+0·6
	517	10·5	59·4	+0·6	44·5	−0·7
	538	11·0	58·6	−0·6	(58·7)	—
2462	534	10·5	16. 24. 7·9	+0·5	6. 37. 30·0	−0·6
	535	10·5	8·0	+0·6	29·5	−1·1
	541	10·5	6·9	−1·1	32·4	+1·8
2465	517	10·5	16. 24. 44·4	+0·1	5. 16. 9·0	−0·1
	526	10·5	45·9	−0·6	8·8	−0·3
	543	10·5	44·5	+0·3	9·5	+0·4
2466	526	10·0	16. 25. 13·7	+1·2	5. 37. 15·2	+0·2
	538	10·0	12·4	−0·7	14·9	−0·1
	543	10·0	12·6	−0·4	14·8	−0·2
2468	534	10·5	16. 25. 35·9	−0·5	6. 40. 12·8	−0·7
	535	10·0	36·4	+0·4	13·7	+0·2
	541	10·5	36·3	+0·2	14·0	+0·5
2470	509	10·5	16. 26. 35·7	0·0	4. 37. 31·7	−0·3
	535	10·5	34·7	−1·2	32·2	+0·2
	541	10·5	36·8	+1·3	32·0	0·0
2473	517	10·0	16. 27. 20·9	+1·2	6. 17. 25·8	+0·6
	538	10·0	19·4	−1·3	24·8	−0·4
	543	10·0	20·4	+0·3	25·1	−0·1
2479	509	9·0	16. 29. 6·1	−0·2	7. 1. 53·1	0·0
	517	9·0	6·1	−0·2	52·5	−0·6
	534	9·0	6·4	+0·4	53·8	+0·7
2485	535	10·5	16. 31. 48·8	+1·1	6. 43. 27·7	−0·4
	538	10·5	47·6	−1·1	28·4	+0·3
	541	10·5	48·2	0·0	28·2	+0·1
2487	509	10·0	16. 32. 20·6	−0·1	5. 22. 2·8	−0·3
	534	10·0	20·7	0·0	3·1	0·0
	538	10·0	20·9	+0·3	3·4	+0·3
2488	517	10·5	16. 32. 31·4	+0·8	6. 16. 50·8	−1·3
	535	10·5	30·4	−0·8	52·1	0·0
	541	10·5	30·8	−0·2	53·3	+1·2
2491	509	10·0	16. 35. 53·8	+0·2	5. 52. 42·9	+0·3
	534	10·0	53·6	−0·2	42·3	−0·3
	535	10·0	53·8	+0·2	42·6	0·0
2496	517	10·5	16. 36. 44·3	−1·0	4. 35. 42·0	+0·3
	534	10·5	44·8	−0·4	41·6	−0·1
	535	10·5	46·2	+1·3	41·5	−0·2
2498	509	9·5	16. 38. 9·3	−0·9	5. 7. 31·1	−0·1
	535	9·5	10·3	+0·4	30·9	−0·3
	536	9·5	10·4	+0·5	31·5	+0·3
2500	517	10·5	16. 38. 37·6	−0·2	6. 24. 31·9	−0·3
	534	10·5	37·6	−0·2	31·5	−0·7
	536	10·5	37·8	+0·2	33·1	+0·9
2501	509	9·0	16. 40. 11·7	+1·1	5. 59. 37·7	+0·2
	536	9·0	11·2	+0·3	37·7	+0·2
	538	9·0	10·0	−1·6	37·0	−0·5
2503	517	10·5	16. 42. 1·5	+0·3	5. 29. 11·9	0·0
	526	10·5	1·3	0·0	11·9	0·0
	535	10·5	1·2	−0·1	11·9	0·0
2504	517	10·5	16. 42. 32·9	−0·2	6. 25. 4·7	0·0
	528	10·0	33·0	0·0	4·0	−0·7
	536	10·5	33·2	+0·3	5·3	+0·6
2506	509	10·5	16. 44. 18·1	+0·6	6. 6. 14·5	+1·0
	534	10·5	17·2	−0·8	13·5	0·0
	535	10·0	17·8	+0·2	12·6	−0·9
2507	528	10·5	16. 44. 25·3	−0·5	6. 31. 39·2	+0·3
	534	10·5	25·5	−0·2	37·5	−1·4
	541	10·5	26·1	+0·9	40·1	+1·2
2508	517	10·5	16. 45. 51·6	0·0	4. 17. 53·5	−0·1
	536	10·5	51·6	0·0	53·7	+0·1
	551	10·5	51·6	0·0	53·6	0·0
2509	509	10·5	16. 46. 0·1	−0·9	5. 32. 23·2	+0·8
	526	10·5	1·1	+0·6	22·6	+0·2
	550	10·5	0·8	+0·1	21·5	−0·9
2514	517	10·5	16. 47. 20·4	−1·8	5. 56. 47·0	−2·1
	669*	10·5	21·0	−0·9	50·9	+1·8
	676*	10·5	25·2	+5·5	49·5	+0·4
2515	509	9·5	16. 47. 37·4	−0·8	5. 43. 5·5	+0·2
	551	9·5	38·6	+1·1	4·6	−0·7
	552	9·5	37·8	−0·2	5·7	+0·4
2516	509	10·0	16. 47. 50·5	−0·5	5. 43. 48·0	+0·7
	551	10·0	51·1	+0·5	46·4	−0·9
	552	10·0	50·8	0·0	47·4	+0·1
2518	535	10·5	16. 48. 9·0	+0·3	4. 50. 44·1	−1·6
	669*	10·5	7·6	−1·5	46·2	+0·5
	683*	10·5	9·8	+1·3	46·9	+1·2
2519	536	10·5	16. 48. 32·3	−0·4	5. 23. 36·0	0·0
	676*	10·5	33·7	+1·6	36·8	+0·8
	683*	10·5	31·9	−1·0	35·2	−0·8
2520	541	10·0	16. 48. 53·9	+0·2	6. 57. 20·9	−0·9
	676*	10·0	53·9	+0·2	21·5	−0·3
	683*	10·5	53·7	−0·2	22·9	+1·1
2524	509	10·0	16. 51. 39·6	−0·8	6. 21. 15·9	−0·3
	534	10·0	40·1	0·0	16·5	+0·3
	551	10·0	40·5	+0·7	16·3	+0·1

2423 is No. (15) of the 20 special Polars, observed accidentally as an ordinary zone-star.
2424 on 676*. Suspected to be Double. It is Struve 2034. Distance for 1831·86=1″·413.
2460 on 538. The bisection was probably omitted by inadvertence.
2488. S. f star of 2. 2507 on 528. Suspected to be the second star of a Double.
2514 on 676*. R.A. bad. Half weight. 2518 N. p. star of 2. The other still fainter.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2526	517	10·0	16. 52. 21·5	−1·1	6. 6. 21·9	−0·5
	536	10·0	22·0	−0·3	23·2	+0·8
	550	10·0	23·1	+1·4	22·0	−0·4
2529	535	10·5	16. 53. 39·7	+0·7	6. 46. 9·3	−0·2
	536	10·0	38·9	−0·7	9·9	+0·4
	549	10·0	39·2	−0·2	9·3	−0·2
2531	509	10·5	16. 54. 37·1	−1·7	5. 15. 54·6	−0·4
	517	10·5	38·9	+0·8	55·8	+0·8
	543	10·5	39·0	+1·0	54·5	−0·5
2534	517	10·0	16. 55. 14·3	−0·9	6. 1. 22·9	+1·2
	535	10·5	14·5	−0·6	22·2	+0·5
	543	10·5	15·9	+1·6	20·1	−1·6
2536	509	10·0	16. 56. 34·1	−0·2	4. 25. 9·6	0·0
	517	10·5	34·4	+0·1	8·1	−1·5
	536	10·0	34·4	+0·1	11·0	+1·4
2540	536	10·0	16. 58. 19·0	−0·4	5. 31. 40·3	+0·7
	543	10·5	19·3	0·0	37·9	−1·7
	549	10·5	19·5	+0·3	40·5	+0·9
2547	509	10·5	16. 59. 9·4	−0·9	4. 12. 55·6	+0·3
	536	10·5	9·7	−0·6	56·1	+0·8
	543	10·5	11·5	+1·4	54·1	−1·2
2549	509	10·5	17. 0. 34·6	−1·4	6. 7. 6·5	−0·6
	517	10·5	36·4	+1·4	7·1	0·0
	536	10·5	35·6	+0·2	7·6	+0·5
2556	509	10·0	17. 3. 29·5	−0·2	6. 5. 26·6	+0·4
	517	10·0	29·4	−0·3	25·7	−0·5
	543	10·0	29·9	+0·5	26·3	+0·1
2557	535	10·0	17. 4. 20·6	−0·7	6. 35. 17·1	+0·3
	536	9·5	20·7	−0·5	17·4	+0·6
	549	9·5	21·7	+1·2	15·9	−0·9
2558	517	9·5	17. 5. 29·4	+0·3	5. 18. 32·8	+0·8
	543	9·5	29·5	+0·4	31·5	−0·7
	549	10·0	28·7	−0·7	31·8	−0·2
2560	517	10·5	17. 6. 10·0	−0·2	6. 25. 12·8	+0·8
	536	10·5	10·4	+0·5	11·9	−0·1
	543	10·5	10·0	−0·2	11·4	−0·6
2565	509	9·0	17. 7. 19·7	−0·7	5. 6. 20·3	+0·3
	525	9·0	19·7	−0·7	20·3	+0·3
	550	9·0	21·2	+1·3	19·4	−0·6
2566	509	10·5	17. 7. 37·0	−0·8	5. 1. 48·2	+0·9
	535	10·5	37·8	+0·3	48·3	+1·0
	543	10·5	38·0	+0·5	45·4	−1·9
2570	536	10·0	17. 9. 5·2	−1·6	6. 36. 11·7	+0·8
	549	10·0	6·3	+0·3	11·2	+0·3
	550	10·0	6·8	+1·2	9·9	−1·0
2571	509	10·0	17. 9. 38·6	−0·3	4. 58. 1·9	−0·8
	517	10·0	38·2	−0·8	3·0	+0·3
	550	10·0	39·6	+1·0	3·2	+0·5
2573	536	10·5	17. 10. 50·8	−0·3	6. 4. 51·1	+0·3
	543	10·5	50·5	−0·8	51·7	+0·9
	566	11·0	51·7	+1·1	49·7	−1·1
2574	517	10·5	17. 11. 15·9	−1·7	5. 18. 16·6	−0·9
	549	10·5	19·2	+2·9	17·6	+0·1
	552	10·5	16·2	−1·3	18·3	+0·8
2577	536	10·0	17. 12. 44·5	−1·2	6. 37. 10·3	+0·6
	549	10·0	46·0	+1·4	9·4	−0·3
	551	10·0	45·2	0·0	9·5	−0·2
2578	509	10·0	17. 12. 53·3	−1·2	6. 30. 39·4	+0·1
	549	10·5	54·9	+1·5	39·5	+0·2
	551	10·0	53·7	−0·5	39·0	−0·3
2580	543	10·5	17. 13. 23·0	+1·6	5. 36. 35·5	−0·5
	550	10·0	21·6	−0·4	35·6	−0·4
	552	10·5	21·2	−1·0	37·0	+1·0
2582	517	10·5	17. 14. 9·3	0·0	5. 17. 59·1	−2·0
	550	10·5	9·3	0·0	59·7	−1·4
	552	10·5	9·4	+0·1	64·6	+3·5
2586	536	10·0	17. 15. 3·0	+1·0	6. 18. 2·0	−0·6
	550	10·0	2·6	+0·3	3·1	+0·5
	566	10·0	1·7	−1·2	2·6	0·0
2597	509	10·0	17. 20. 18·3	−0·9	5. 34. 6·5	+0·5
	517	10·0	19·3	+0·6	5·0	−1·0
	535	10·0	19·1	+0·3	6·4	+0·4
2598	509	9·5	17. 21. 3·0	−1·1	5. 3. 8·7	−1·0
	535	9·5	3·6	−0·3	9·8	+0·1
	536	9·0	4·7	+1·2	10·5	+0·8
2599	517	9·5	17. 21. 34·4	−1·6	6. 37. 26·7	−0·5
	536	9·0	35·3	0·0	27·9	+0·7
	549	10·0	36·1	+1·4	27·1	−0·1
2601	528	10·5	17. 22. 2·7	−0·9	6. 50. 35·3	+1·0
	535	10·5	2·8	−0·7	33·8	−0·5
	549	10·5	4·0	+1·4	33·7	−0·6

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2609	517	10·5	17. 25. 49·4	−1·0	5. 29. 59·5	0·0
	536	10·5	49·4	−1·0	59·5	0·0
	549	10·5	51·5	+2·0	59·4	−0·1
2610	534	10·5	17. 26. 32·4	0·0	6. 24. 18·0	−1·0
	535	10·5	32·1	−0·5	19·5	+0·5
	550	10·5	32·6	+0·3	19·5	+0·5
2617	534	10·5	17. 27. 56·9	+0·3	6. 27. 14·2	+0·1
	549	10·5	57·5	+1·4	12·8	−1·3
	550	10·5	55·7	−1·7	15·4	+1·3
2619	534	10·5	17. 29. 49·6	−1·4	4. 12. 47·7	+0·5
	549	10·5	51·1	+0·2	45·8	−1·4
	552	10·5	52·1	+1·3	48·1	+0·9
2620	517	10·5	17. 30. 7·8	+0·1	4. 56. 62·1	+1·3
	536	10·0	7·7	0·0	61·0	+0·2
	551	10·5	7·6	−0·1	59·2	−1·6
2622	509	10·5	17. 30. 25·5	−0·8	5. 53. 39·7	−2·5
	535	10·5	26·9	+1·4	42·1	−0·1
	550	10·5	25·5	−0·8	44·7	+2·5
2626	535	10·5	17. 32. 28·4	+0·9	5. 27. 30·9	+0·4
	551	10·5	27·6	−0·3	28·4	−2·1
	566	10·5	27·5	−0·4	32·2	+1·7
2628	509	10·5	17. 32. 41·0	−0·3	5. 53. 22·6	−0·6
	535	10·5	41·5	+0·5	22·0	−1·2
	550	10·0	41·0	−0·3	25·0	+1·8
2631	549	9·5	17. 33. 31·1	−0·7	6. 33. 8·0	−0·5
	552	10·0	31·5	0·0	9·4	+0·9
	576	9·5	31·9	+0·7	8·1	−0·4
2632	535	10·0	17. 34. 7·0	+0·5	6. 50. 50·6	−0·5
	566	10·0	6·5	−0·4	51·2	+0·1
	580	9·5	6·5	−0·4	51·5	+0·4
2633	543	10·0	17. 34. 12·5	−0·5	6. 36. 46·6	−0·2
	550	10·0	12·3	−0·9	47·1	+0·3
	566	9·5	13·5	+1·2	46·8	0·0
2634	536	10·5	17. 34. 22·9	−0·5	6. 16. 13·4	−0·3
	565	10·5	23·5	+0·5	13·6	−0·1
	576	10·5	23·2	0·0	14·2	+0·5
2635	534	10·5	17. 34. 36·3	+0·2	6. 0. 60·6	+0·7
	543	10·5	36·0	−0·3	58·7	−1·2
	574	10·5	36·4	+0·3	60·3	+0·4
2637	551	10·0	17. 34. 49·8	−0·4	6. 56. 26·5	−1·0
	552	10·0	50·5	+0·9	28·4	+0·9
	565	10·0	49·7	−0·5	27·5	0·0
2642	526	8·0	17. 37. 3·5	+1·0	5. 16. 20·4	+0·6
	536	8·5	3·0	+0·3	20·0	+0·2
	549	9·0	0·8	−2·8	18·9	−0·9
2647	509	9·0	17. 38. 33·5	−0·7	6. 11. 11·7	+0·6
	535	9·5	33·6	−0·5	11·2	+0·1
	543	9·5	34·5	+1·0	10·5	−0·6
2648	509	9·0	17. 38. 58·4	0·0	6. 33. 27·6	−0·4
	526	9·0	57·1	−2·2	28·2	+0·2
	549	9·0	59·7	+2·2	28·1	+0·1
2652	535	10·5	17. 40. 44·2	0·0	6. 43. 51·7	+0·3
	536	10·5	44·1	−0·2	52·1	+0·7
	543	10·5	44·4	+0·4	50·5	−0·9
2654	528	10·5	17. 41. 19·6	+1·7	5. 44. 21·8	+0·5
	534	10·5	18·9	+0·6	21·3	0·0
	550	10·5	16·9	−2·4	20·8	−0·5
2655	534	10·0	17. 42. 0·3	0·0	5. 30. 48·9	+0·2
	543	10·0	0·0	−0·4	47·8	−0·9
	549	10·0	0·7	+0·6	49·3	+0·6
2656	535	10·5	17. 43. 5·6	+1·2	5. 49. 11·0	−2·7
	536	10·5	4·1	−1·1	13·6	−0·1
	550	10·5	4·6	−0·3	16·6	+2·9
2659	526	10·5	17. 43. 47·9	−1·1	6. 38. 2·4	+0·1
	543	10·5	48·8	+0·5	2·3	0·0
	551	10·5	48·8	+0·5	2·3	0·0
2661	509	10·5	17. 44. 39·3	−0·5	4. 36. 19·4	+0·1
	534	10·0	40·1	+0·5	19·7	+0·4
	550	10·5	39·6	−0·1	18·9	−0·4
2665	534	10·5	17. 45. 38·7	+0·1	4. 6. 58·1	+1·0
	543	10·5	37·7	−1·0	55·8	−1·3
	551	10·5	39·3	+0·8	57·5	+0·4
2668	535	10·0	17. 47. 47·8	0·0	5. 58. 48·0	−0·3
	549	10·0	47·9	+0·2	48·2	−0·1
	551	10·0	47·7	−0·2	48·8	+0·5
2672	535	10·5	17. 48. 51·1	+1·0	6. 32. 37·7	+0·4
	543	10·5	50·0	−0·9	37·0	−0·3
	551	10·5	50·5	0·0	37·3	0·0
2674	536	10·5	17. 50. 18·7	−0·4	5. 11. 56·5	−0·5
	550	11·0	21·5	+3·4	56·5	−0·5
	566	11·0	18·1	−1·2	58·0	+1·0

2642 on 549. The R.A. unfavourably observed. Half weight.
2656. N. f. star of two.
2674 on 550. Ill seen. Faint. Half weight.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2676	551	11·0	17. 51. 37·6	−1·0	6. 20. 24·6	+0·7
	574	11·0	37·9	−0·5	22·9	−1·0
	576	10·5	39·0	+1·3	24·2	+0·3
2677	509	11·0	17. 51. 58·4	−0·1	4. 43. 24·9	−0·2
	535	10·5	57·9	−0·7	24·8	−0·3
	576	11·0	59·3	+1·0	25·6	+0·5
2679	526	9·5	17. 53. 9·7	−0·3	5. 10. 37·7	−0·5
	536	9·5	9·7	−0·3	38·6	+0·4
	543	9·5	10·3	+0·5	38·4	+0·2
2680	534	10·5	17. 53. 54·3	−1·8	6. 11. 26·8	−1·7
	542	10·5	55·3	−0·2	30·5	+2·0
	550	10·5	56·6	+1·9	28·2	−0·3
2683	509	10·5	17. 55. 13·8	+1·2	5. 43. 45·2	+0·6
	542	10·5	12·1	−1·4	45·1	+0·5
	552	10·5	13·6	+0·9	43·4	−1·2
2684	509	10·0	17. 55. 34·0	+0·4	4. 48. 51·8	−0·7
	543	10·0	33·8	+0·1	51·6	−0·9
	549	10·0	33·2	−0·6	54·2	+1·7
2688	534	10·5	17. 56. 1·5	−1·7	6. 3. 18·8	−0·3
	550	10·5	2·2	−0·6	19·0	−0·1
	566	10·5	4·2	+2·5	19·6	+0·5
2690	551	10·5	17. 56. 30·4	0·0	6. 27. 43·3	−0·5
	566	10·5	30·7	+0·5	43·3	−0·5
	580	10·5	30·0	−0·7	44·9	+1·1
2693	509	9·5	17. 56. 48·8	−0·8	5. 43. 9·4	0·0
	542	9·5	50·1	+1·2	9·6	+0·2
	585	9·5	49·0	−0·5	9·3	−0·1
2694	535	10·5	17. 56. 59·0	−0·2	6. 42. 12·8	−0·2
	536	10·0	58·3	−1·4	13·7	+0·7
	574	10·5	60·1	+1·8	12·4	−0·6
2697	536	10·5	17. 57. 59·7	−0·6	5. 27. 59·1	−0·1
	576	10·5	59·8	−0·4	57·9	−1·3
	580	10·5	60·8	+1·0	60·7	+1·5
2698	509	10·0	17. 58. 18·0	−0·9	5. 41. 13·2	−0·4
	542	10·0	18·7	+0·1	13·7	+0·1
	580	10·0	19·2	+0·9	13·8	+0·2
2699	535	10·5	17. 59. 9·0	−0·6	4. 42. 57·0	+1·1
	551	10·5	10·0	+0·6	54·7	−1·2
	576	10·5	9·5	0·0	56·1	+0·2
2703	542	10·0	18. 0. 2·8	−0·5	5. 49. 6·2	+0·2
	552	10·0	1·7	−2·1	6·3	+0·3
	566	10·0	4·8	+2·6	5·5	−0·5
2705	509	10·5	18. 0. 41·2	−1·0	5. 39. 1·5	+0·5
	551	10·5	43·1	+1·8	0·3	−0·7
	580	10·5	41·3	−0·9	1·2	+0·2
2707	534	10·0	18. 1. 18·2	−0·8	6. 20. 54·2	−0·6
	549	10·0	18·1	−1·0	55·0	+0·2
	574	10·0	19·7	+1·7	55·1	+0·3
2708	551	10·5	18. 1. 21·6	−0·3	5. 21. 14·6	−0·4
	552	10·5	20·9	−1·3	15·7	+0·7
	576	10·5	23·0	+1·7	14·8	−0·2
2710	536	10·5	18. 2. 12·2	−0·5	6. 50. 44·8	−0·5
	566	10·5	12·3	−0·4	44·1	−1·2
	585	10·5	13·0	+0·9	46·9	+1·6
2711	509	10·5	18. 2. 32·7	−1·4	5. 55. 22·9	−0·2
	542	10·0	34·8	+1·9	23·3	+0·2
	550	10·0	33·4	−0·3	23·1	0·0
2712	509	10·5	18. 2. 49·8	−0·2	5. 55. 45·0	−0·8
	542	10·0	50·4	+0·3	46·5	+0·7
	550	10·0	49·6	−0·5	45·9	+0·1
2719	535	10·0	18. 5. 6·8	+0·5	5. 5. 17·7	−0·8
	536	10·0	6·5	+0·1	19·5	+1·0
	549	10·0	6·0	−0·5	18·3	−0·2
2724	509	10·0	18. 6. 34·9	+0·1	4. 25. 45·4	+0·1
	543	10·0	35·3	+1·2	45·1	−0·2
	549	10·0	33·7	−1·3	45·3	0·0
2727	535	10·5	18. 7. 24·1	−0·7	4. 41. 16·4	+0·1
	536	10·5	24·6	−0·1	16·4	+0·1
	551	10·5	25·4	+0·9	16·2	−0·1
2728	536	10·0	18. 7. 27·5	+1·0	6. 19. 37·2	+0·9
	543	10·0	26·8	−0·2	35·4	−0·9
	550	10·0	26·5	−0·7	36·4	+0·1
2729	542	9·5	18. 8. 29·2	+0·3	6. 33. 58·5	+1·1
	549	9·5	28·4	−1·0	56·1	−1·3
	551	10·0	29·3	+0·5	57·6	+0·2
2732	535	10·5	18. 10. 1·6	−1·6	6. 47. 31·4	0·0
	542	10·5	3·6	+2·0	31·3	−0·1
	550	11·0	2·2	−0·5	(39·3)	—
2733	509	10·5	18. 10. 13·3	−1·2	4. 52. 15·6	−0·3
	536	10·5	14·3	+0·1	15·6	−0·3
	552	10·5	14·9	+0·9	16·6	+0·7
2734	534	10·0	18. 10. 22·4	−0·1	5. 20. 21·2	+0·6
	549	10·0	22·1	−0·6	21·1	+0·5
	552	10·0	22·9	+0·6	19·5	−1·1
2737	542	10·5	18. 11. 8·2	−0·6	6. 58. 12·4	+0·4
	543	10·5	8·4	−0·2	10·2	−1·8
	557	10·5	8·9	+0·7	13·4	+1·4
2738	534	10·5	18. 12. 11·2	−1·4	5. 24. 45·1	+0·2
	543	10·5	12·4	+0·3	44·2	−0·7
	548	10·5	13·1	+1·3	45·4	+0·5
2739	535	10·5	18. 12. 28·3	0·0	4. 57. 48·9	+0·1
	536	10·5	27·5	−1·0	49·8	+1·0
	551	10·5	29·1	+1·0	47·8	−1·0
2742	536	10·0	18. 14. 2·8	−0·3	5. 6. 32·3	+0·7
	542	10·5	3·0	0·0	31·3	−0·3
	551	10·0	3·1	+0·1	31·3	−0·3
2743	534	9·5	18. 14. 50·5	+0·7	5. 18. 8·1	+0·9
	548	9·5	50·1	+0·1	6·6	−0·6
	552	10·0	49·3	−1·0	7·0	−0·2
2744	535	9·5	18. 15. 13·5	+0·3	5. 36. 25·1	−0·7
	549	9·0	13·1	−0·3	26·5	+0·7
	552	9·5	13·3	0·0	25·8	0·0
2746	534	10·0	18. 15. 44·2	+0·8	5. 20. 55·5	+0·1
	548	10·0	43·3	−0·4	54·8	−0·6
	562	10·0	43·2	−0·6	56·0	+0·6
2747	542	9·0	18. 15. 48·1	−0·2	6. 6. 28·3	−0·4
	550	9·0	48·7	+0·8	28·3	−0·4
	557	9·0	47·7	−0·8	29·6	+0·9
2751	542	9·0	18. 18. 7·0	+0·6	4. 19. 51·4	−0·3
	549	9·0	6·3	−0·2	51·0	−0·7
	565	9·0	6·2	−0·3	52·8	+1·1
2754	543	10·5	18. 19. 4·9	−0·3	5. 58. 2·3	−1·9
	550	10·5	5·4	+0·5	5·0	+0·8
	566	10·5	5·1	0·0	5·2	+1·0
2759	551	10·0	18. 19. 59·9	−0·1	5. 23. 17·3	+0·3
	552	10·5	60·1	+0·1	17·5	+0·5
	562	10·0	60·1	+0·1	16·3	−0·7
2760	550	10·0	18. 20. 1·8	−0·7	6. 35. 49·1	+0·4
	557	10·5	2·7	+0·9	48·1	−0·6
	566	10·0	2·1	−0·2	48·8	+0·1
2763	536	10·5	18. 20. 39·6	−0·1	4. 44. 27·7	+0·8
	548	10·5	38·9	−1·0	26·6	−0·3
	562	10·5	40·5	+1·0	26·5	−0·4
2764	535	10·0	18. 21. 20·6	−2·2	4. 54. 39·0	+1·0
	548	10·0	23·2	+1·2	38·0	0·0
	549	10·0	23·2	+1·2	37·1	−0·9
2767	543	10·5	18. 22. 49·9	+0·5	6. 49. 53·6	+0·9
	549	10·5	46·2	−0·7	52·4	−0·3
	566	10·5	46·7	+0·2	52·1	−0·6
2773	536	10·5	18. 25. 36·0	−1·2	4. 30. 9·2	+0·7
	542	11·0	37·0	0·0	8·9	+0·4
	557	10·5	38·1	+1·3	7·4	−1·1
2778	542	10·0	18. 28. 3·5	+0·4	5. 27. 7·7	−0·9
	557	10·0	3·5	+0·4	7·7	−0·9
	566	10·5	2·5	−1·0	10·3	+1·7
2779	536	9·0	18. 28. 8·0	0·0	6. 22. 35·7	+0·1
	552	9·5	7·6	−0·7	35·7	+0·1
	562	9·0	8·3	+0·5	35·3	−0·3
2782	535	9·0	18. 28. 55·5	−0·4	5. 40. 47·5	−0·2
	552	10·0	55·8	0·0	47·9	+0·2
	565	9·5	56·1	+0·4	47·7	0·0
2783	542	10·5	18. 28. 55·4	−0·8	4. 8. 30·9	−0·8
	566	10·5	55·6	−0·5	32·6	+0·9
	576	10·5	57·2	+1·2	31·7	0·0
2784	536	10·5	18. 29. 9·3	−0·7	5. 11. 27·1	+0·4
	562	10·5	9·8	0·0	25·9	−0·8
	574	10·5	10·4	+0·8	27·1	+0·4
2786	534	9·5	18. 30. 58·9	0·0	6. 49. 25·8	+0·9
	552	10·0	58·3	−1·1	24·8	−0·1
	574	9·5	59·5	+1·1	24·0	−0·9
2788	542	10·0	18. 32. 23·9	+0·2	6. 29. 4·0	+0·9
	552	10·0	23·9	+0·2	1·9	−1·2
	566	10·0	23·6	−0·3	3·4	+0·3
2790	534	9·0	18. 32. 46·2	−0·7	5. 24. 46·0	−0·2
	542	9·0	47·1	+0·6	45·7	−0·5
	576	9·0	46·7	0·0	46·8	+0·6
2796	534	10·0	18. 35. 11·2	−0·5	6. 2. 3·8	+0·1
	549	10·0	11·9	+0·6	3·9	+0·2
	574	10·0	11·3	−0·3	3·4	−0·3
2797	536	10·5	18. 35. 26·9	+0·6	4. 25. 24·3	+2·3
	562	10·5	24·6	−2·1	19·9	−2·1
	574	10·5	27·7	+1·5	21·8	−0·2

2677. S. f. star of 2.
2633 on 509. 5ˢ addcd and half weight given to the observed R.A.
2732 on 550. Possibly not bisected; or an error of 10″ in reading off. N.P.D. rejected.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
2799	535	10·5	18. 35. 36·3	−0·8	4. 33. 51·0	−0·5	2860	541	10·0	18. 55. 29·3	−0·2	6. 54. 23·2	+0·9
	550	10·5	37·9	+1·1	51·4	−0·1		543	10·5	29·4	0·0	21·9	−0·4
	566	10·5	36·8	−0·2	52·2	+0·7		552	10·0	29·6	+0·4	21·7	−0·6
2802	536	9·5	18. 36. 37·0	−0·5	6. 16. 8·5	+0·5	2862	536	10·0	18. 57. 10·5	−0·9	5. 57. 5·0	+0·3
	549	10·0	38·4	+1·8	7·8	−0·2		542	10·0	11·5	+0·6	5·0	+0·3
	552	10·0	36·5	−1·3	7·7	−0·3		549	10·0	11·2	+0·2	4·2	−0·5
2804	534	10·0	18. 37. 47·1	−0·5	4. 36. 12·6	+0·8	2864	551	10·5	18. 57. 57·1	+0·2	6. 37. 15·9	0·0
	535	10·0	47·3	−0·2	11·3	−0·5		557	10·5	56·1	−1·6	15·4	−0·5
	562	10·0	48·0	+0·6	11·4	−0·4		565	10·5	57·8	+1·4	16·4	+0·5
2807	535	10·5	18. 38. 46·1	+0·2	4. 31. 48·9	−0·1	2867	535	10·5	18. 58. 41·5	0·0	4. 25. 13·8	+1·2
	562	11·0	45·8	−0·1	50·5	+1·5		557	10·5	40·0	−1·7	12·2	−0·4
	566	10·5	45·7	−0·2	47·5	−1·5		565	10·5	43·0	+1·7	11·8	−0·8
2809	536	10·5	18. 39. 42·7	−0·9	4. 47. 1·8	−0·1	2870	536	9·5	18. 58. 58·6	0·0	6. 51. 39·4	−0·5
	551	10·5	43·5	+0·1	1·2	−0·7		541	9·5	58·4	−0·4	39·6	−0·3
	557	10·5	44·0	+0·8	2·6	+0·7		552	10·0	58·7	+0·2	40·7	+0·8
2810	536	9·5	18. 39. 49·1	+0·2	5. 48. 32·2	+0·1	2872	542	10·5	18. 59. 27·2	+1·0	4. 14. 54·4	−1·9
	541	9·5	49·3	+0·5	31·6	−0·5		562	10·5	25·3	−1·1	57·6	+1·3
	552	9·5	48·5	−0·8	32·5	+0·4		566	10·5	26·5	+0·2	57·0	+0·7
2815	542	10·5	18. 41. 31·7	+0·9	5. 33. 0·8	−0·5	2874	535	10·5	18. 59. 54·7	−0·9	4. 55. 31·6	+0·2
	549	10·5	30·1	−1·5	2·8	+1·5		551	10·5	55·8	+0·5	31·1	−0·3
	565	10·5	31·4	+0·4	1·1	−0·2		557	10·5	55·8	+0·5	31·6	+0·2
2816	541	10·5	18. 41. 35·2	−2·6	4. 59. 22·5	−0·9	2876	543	10·0	19. 0. 10·1	+0·3	6. 31. 22·8	+0·2
	557	10·5	38·1	+1·2	22·5	−0·9		549	10·0	9·6	−0·5	21·4	−1·2
	566	10·5	38·4	+1·6	25·3	+1·9		552	10·0	10·1	+0·3	23·5	+0·9
2817	536	9·5	18. 42. 17·6	+0·9	5. 29. 27·2	+0·2	2880	543	10·5	19. 0. 58·5	−0·8	6. 2. 26·1	−0·5
	549	9·0	16·0	−1·4	26·4	−0·6		562	10·5	58·7	−0·5	26·7	+0·1
	565	9·5	17·5	+0·7	27·3	+0·3		566	10·5	59·7	+1·1	26·9	+0·3
2820	543	9·0	18. 42. 30·8	+0·4	6. 44. 47·8	−1·4	2884	549	10·0	19. 2. 2·1	−0·4	6. 38. 50·2	+0·1
	552	9·0	30·1	−0·9	50·4	+1·2		565	10·0	2·5	+0·4	50·0	−0·1
	576	9·0	30·8	+0·4	49·3	+0·1		566	10·0	2·2	−0·2	50·1	0·0
2822	550	8·0	18. 43. 11·0	−0·6	6. 56. 30·1	+0·1	2886	535	10·5	19. 2. 32·8	−0·4	5. 16. 37·5	+0·2
	552	8·0	11·6	+0·6	30·5	+0·5		551	10·5	33·2	+0·1	36·4	−0·9
	576	8·0	11·3	0·0	29·4	−0·6		574	10·0	33·3	+0·3	38·0	+0·7
2824	535	10·0	18. 43. 47·9	−0·5	5. 49. 23·3	+0·4	2888	542	10·5	19. 4. 56·4	−1·2	6. 29. 40·6	+1·9
	562	10·0	47·5	−1·1	23·0	+0·1		543	10·5	56·3	−1·4	39·5	+0·8
	574	10·0	49·3	+1·7	22·3	−0·6		549	10·5	58·5	+2·4	36·1	−2·6
2825	535	10·5	18. 44. 0·2	−0·6	5. 54. 52·4	−0·6	2892	535	10·5	19. 7. 23·2	−1·1	7. 0. 51·8	−0·9
	543	10·5	0·6	0·0	52·1	−0·9		542	10·5	23·6	−0·4	53·6	+0·9
	574	10·5	1·0	+0·6	54·4	+1·4		551	10·5	24·7	+1·7	52·8	0·0
2828	541	10·0	18. 45. 13·7	+0·1	4. 59. 42·9	+1·2	2895	535	10·0	19. 8. 35·3	−0·7	5. 39. 4·4	+0·2
	552	10·5	13·0	−0·8	41·0	−0·7		543	10·0	35·4	−0·6	3·2	−1·0
	557	10·0	14·1	+0·7	41·2	−0·5		566	9·5	36·6	+1·2	4·9	+0·7
2830	541	10·5	18. 46. 15·6	−1·7	4. 55. 58·0	+1·0	2898	535	10·5	19. 8. 45·4	−1·1	6. 41. 14·9	−0·8
	557	11·0	17·8	+1·2	56·3	−0·7		543	10·0	45·5	−0·9	16·1	+0·4
	565	11·0	17·4	+0·6	56·6	−0·4		566	10·0	47·0	+1·8	16·1	+0·4
2832	536	10·5	18. 46. 47·0	−0·7	4. 26. 5·7	+0·4	2899	542	10·5	19. 9. 8·5	−0·1	4. 38. 48·2	−0·4
	562	10·5	46·9	−0·8	3·5	−1·8		557	10·5	8·8	+0·2	49·4	+0·8
	566	10·5	48·9	+1·5	6·6	+1·3		574	10·5	8·4	−0·2	48·2	−0·4
2834	535	10·5	18. 47. 59·4	−1·2	5. 47. 58·9	+0·4	2903	536	10·0	19. 9. 21·3	+0·5	5. 53. 40·5	+0·2
	542	10·5	61·0	+1·2	58·2	−0·3		551	10·5	20·2	−1·2	41·2	+0·9
	576	10·5	60·1	−0·2	58·5	0·0		557	10·5	21·4	+0·6	39·2	−1·1
2835	536	10·5	18. 48. 16·8	−1·0	6. 10. 59·9	−1·0	2904	542	10·5	19. 9. 28·8	−0·3	5. 16. 40·1	−0·3
	574	10·5	18·2	+1·3	61·1	+0·2		549	10·5	28·9	−0·1	39·2	−1·2
	586	11·0	17·2	−0·3	61·6	+0·7		565	10·5	29·4	+0·6	41·8	+1·4
2836	541	10·5	18. 48. 25·8	+0·5	6. 27. 33·7	+0·3	2907	535	10·0	19. 10. 22·5	+0·1	4. 34. 53·0	+0·8
	543	10·5	25·1	−0·7	32·8	−0·6		548	10·0	22·1	−0·4	51·4	−0·8
	585	10·5	25·5	0·0	33·6	+0·2		549	10·0	22·6	+0·2	52·2	0·0
2842	535	10·5	18. 49. 30·8	+0·2	5. 54. 8·6	−0·5	2908	543	8·5	19. 10. 27·5	0·0	6. 18. 7·5	−0·5
	550	10·5	31·1	+0·6	9·6	+0·5		548	9·0	27·4	−0·2	7·5	−0·5
	576	10·5	30·2	−0·8	9·2	+0·1		566	8·5	27·5	0·0	9·1	+1·1
2843	542	10·5	18. 49. 44·3	+1·1	4. 33. 8·8	+1·3	2912	536	10·5	19. 12. 50·2	−2·6	5. 52. 32·1	+1·1
	543	10·5	42·2	−1·4	7·1	−0·4		549	10·5	53·5	+2·5	29·7	−1·3
	562	10·5	43·7	+0·4	6·7	−0·8		565	10·5	52·1	+0·3	31·2	+0·2
2846	535	10·5	18. 51. 8·8	−1·7	4. 37. 54·2	+1·4	2914	536	10·5	19. 14. 20·8	−0·7	5. 20. 3·9	−0·5
	551	10·5	11·3	+1·3	52·2	−0·6		551	10·5	20·6	−1·0	5·1	+0·7
	557	10·5	10·6	+0·5	52·0	−0·8		585	10·5	22·4	+1·5	4·1	−0·3
2849	541	10·0	18. 52. 0·4	−0·6	5. 37. 54·2	−0·1	2915	535	10·5	19. 14. 30·6	−0·2	6. 29. 23·0	−1·7
	549	10·0	0·4	−0·6	53·9	−0·4		542	10·5	31·8	+1·9	25·7	+1·0
	552	10·0	1·5	+1·0	54·8	+0·5		557	10·5	29·8	−1·5	25·5	+0·8
2851	535	10·5	18. 52. 47·4	−1·4	4. 22. 18·7	−0·1	2916	549	10·5	19. 15. 31·2	−0·2	7. 0. 30·9	−0·8
	551	10·5	49·8	+1·4	19·0	+0·2		551	10·5	31·7	+0·7	32·1	+0·4
	557	10·5	48·6	0·0	18·7	−0·1		576	10·5	30·9	−0·7	32·0	+0·3
2855	536	10·0	18. 54. 32·6	+0·2	5. 53. 50·3	+1·0	2918	557	10·5	19. 15. 57·6	−1·8	4. 53. 54·9	0·0
	542	10·5	32·9	+0·6	49·6	+0·3		574	10·5	59·1	+0·1	54·8	−0·1
	549	10·0	32·0	−0·8	48·1	−1·2		585	10·5	59·5	+0·6	54·9	0·0
2857	536	10·5	18. 54. 56·8	−1·7	5. 51. 22·9	+0·5	2924	557	10·5	19. 19. 12·7	−1·2	4. 52. 33·7	0·0
	542	10·5	58·9	+1·5	21·8	−0·6		574	10·5	13·9	+0·4	33·7	0·0
	549	10·5	57·9	0·0	22·4	0·0		585	10·5	14·2	+0·8	33·8	+0·1
2859	535	10·0	18. 55. 15·1	0·0	5. 31. 16·0	0·0	2926	535	10·0	19. 20. 20·0	+0·5	4. 36. 25·9	−0·5
	543	10·0	15·4	+0·4	15·2	−0·8		542	10·0	19·4	−0·2	27·0	+0·6
	552	10·0	14·9	−0·3	16·7	+0·7		551	10·5	19·4	−0·2	26·3	−0·1

2815 on 549. 10″ have been taken off the circle-reading, and half weight allowed.
2872 on 562. N. p. of 2 stars.
2918 on 557. R.A. somewhat doubtful. Half weight.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	"	° ′ "	"
2929	535	10·0	19. 21. 36·8	0·0	4. 21. 30·5	−1·1
	542	10·0	37·9	+1·3	32·6	+1·0
	551	10·0	35·6	−1·4	31·7	+0·1
2930	535	10·0	19. 21. 52·1	−1·9	6. 24. 21·7	+0·7
	549	10·5	54·4	+2·0	20·0	−1·0
	557	10·5	53·0	−0·3	21·3	+0·3
2931	536	10·0	19. 22. 13·4	+0·4	5. 0. 32·5	−0·2
	549	10·0	13·2	+0·1	34·0	+1·3
	563	10·0	12·8	−0·4	31·5	−1·2
2935	535	10·0	19. 24. 10·8	+0·4	6. 25. 8·8	+0·8
	549	10·0	10·5	0·0	6·6	−1·4
	551	10·0	10·3	−0·3	8·7	+0·7
2938	536	10·5	19. 25. 13·9	−0·1	5. 2. 43·7	+0·9
	565	11·0	15·1	+1·5	42·2	−0·6
	585	11·0	13·0	−1·3	42·6	−0·2
2939	536	10·5	19. 25. 16·5	−1·1	5. 1. 12·3	+0·1
	566	10·5	17·1	−0·3	13·5	+1·3
	574	10·5	18·2	+1·2	10·8	−1·4
2943	542	10·5	19. 25. 42·1	+1·7	5. 31. 21·8	0·0
	549	10·5	39·5	−2·0	20·4	−1·4
	563	10·5	41·2	+0·4	23·3	+1·5
2949	535	10·0	19. 28. 32·3	−0·3	5. 39. 41·9	+0·1
	542	10·0	33·4	+1·3	41·2	−0·6
	551	10·0	31·9	−0·9	42·2	+0·4
2958	535	10·5	19. 30. 8·6	−1·1	4. 30. 26·9	+0·8
	536	10·0	10·0	+0·6	27·0	+0·9
	549	10·5	9·8	+0·4	24·3	−1·8
2961	536	10·5	19. 32. 0·1	−2·6	6. 40. 32·2	−0·5
	565	10·5	3·2	+2·8	33·5	+0·8
	574	10·5	1·6	0·0	32·4	−0·3
2964	535	10·0	19. 32. 58·7	0·0	5. 29. 58·3	−0·1
	542	10·0	59·9	+1·7	59·4	+1·0
	549	10·0	57·6	−1·6	57·6	−0·8
2965	536	8·0	19. 33. 25·9	+1·1	6. 49. 40·8	−1·2
	551	9·0	24·0	−2·3	42·6	+0·6
	563	8·5	26·1	+1·4	42·5	+0·5
2968	535	10·5	19. 33. 54·3	−2·1	6. 34. 59·7	−0·3
	557	10·5	56·5	+1·7	60·0	0·0
	566	10·0	55·7	+0·3	60·4	+0·4
2970	534	10·5	19. 34. 35·5	−0·8	5. 51. 15·1	−0·2
	557	10·5	35·7	−0·5	16·4	+1·1
	574	10·5	36·9	+1·4	14·4	−0·9
2971	536	10·0	19. 35. 37·2	+1·0	6. 29. 46·6	+0·3
	549	10·0	36·0	−1·0	44·7	−1·6
	566	10·0	36·6	0·0	47·7	+1·4
2975	542	11·0	19. 36. 46·7	−0·2	4. 25. 52·8	−0·2
	563	10·5	47·3	+0·5	53·7	+0·7
	576	10·5	46·7	−0·2	52·5	−0·5
2978	536	10·5	19. 37. 61·4	+1·8	4. 56. 37·5	0·0
	566	11·0	59·0	−1·3	40·1	+2·6
	576	10·5	59·7	−0·4	35·0	−2·5
2981	536	10·5	19. 39. 52·5	−0·5	6. 3. 8·3	0·0
	542	10·5	53·6	+1·3	9·4	+1·1
	576	10·5	52·4	−0·6	7·1	−1·2
2983	542	9·5	19. 40. 29·8	+1·4	6. 1. 14·1	+0·1
	551	10·0	27·4	−2·4	13·1	−0·9
	565	9·5	29·5	+0·9	14·7	+0·7
2989	535	9·0	19. 44. 3·4	0·0	4. 13. 16·5	−0·1
	542	9·5	4·1	+0·8	16·7	+0·1
	549	9·5	2·7	−0·8	16·7	+0·1
2990	535	9·5	19. 45. 47·1	−0·7	4. 13. 33·8	+0·2
	542	10·0	49·4	+1·9	33·6	0·0
	549	10·0	46·5	−1·3	33·5	−0·1
2991	536	10·5	19. 45. 55·6	+0·9	6. 56. 46·4	+0·1
	563	10·5	54·7	−0·7	47·4	+1·1
	566	10·5	55·0	−0·2	45·1	−1·2
2992	536	10·5	19. 46. 7·5	+0·1	5. 30. 19·0	+1·2
	563	10·5	6·7	−1·0	15·7	−2·1
	565	10·5	8·1	+1·0	18·6	+0·8
2998	557	10·5	19. 49. 23·2	+1·4	6. 43. 42·3	−0·6
	563	10·5	22·5	+0·2	43·6	+0·7
	574	10·5	21·4	−1·8	42·7	−0·2
2999	535	10·5	19. 49. 24·0	−0·6	5. 45. 6·7	+0·4
	565	10·5	25·0	+0·9	5·4	−0·9
	566	10·5	24·2	−0·3	6·7	+0·4
3000	536	10·0	19. 49. 59·0	+1·0	4. 10. 49·8	+0·9
	549	10·0	57·1	−1·1	48·9	0·0
	576	10·0	58·3	+0·2	48·1	−0·8
3001	535	10·0	19. 50. 6·1	−0·9	5. 46. 1·0	−0·2
	565	10·0	7·2	+0·8	1·3	+0·1
	566	10·0	6·8	+0·2	1·3	+0·1
3004	536	9·5	19. 50. 40·8	+0·6	7. 0. 21·0	−0·3
	551	9·5	39·8	−1·3	22·4	+1·1
	589	9·5	40·9	+0·7	20·5	−0·8
3005	557	10·5	19. 50. 56·2	−0·2	6. 34. 1·8	−0·5
	585	10·0	56·3	0·0	2·2	−0·1
	588	10·0	56·3	0·0	3·0	+0·7
3008	542	10·0	19. 51. 33·2	+0·9	5. 52. 1·7	+1·1
	562	10·0	32·5	−0·2	0·1	−0·5
	588	10·0	32·1	−0·8	0·0	−0·6
3009	542	10·5	19. 51. 49·1	0·0	5. 37. 44·1	+0·6
	565	10·5	48·9	−0·3	43·0	−0·5
	566	10·5	49·4	+0·4	43·4	−0·1
3011	535	10·5	19. 51. 52·5	−0·9	4. 58. 12·2	−0·1
	563	10·0	54·0	+1·0	12·3	0·0
	585	10·5	53·1	−0·1	12·3	0·0
3014	536	10·5	19. 53. 51·1	−0·9	6. 54. 22·6	−0·5
	551	10·5	52·0	+0·7	23·3	+0·2
	574	10·5	51·6	0·0	23·3	+0·2
3019	535	10·5	19. 54. 55·0	−0·8	6. 6. 37·1	+0·5
	557	10·5	54·5	−1·6	35·8	−0·8
	563	10·5	57·0	+2·4	36·8	+0·2
3021	542	10·5	19. 56. 1·3	+0·3	6. 17. 50·6	+1·2
	562	10·5	0·7	−0·7	50·1	+0·7
	574	10·5	1·2	+0·2	47·5	−1·9
3026	536	10·5	19. 57. 9·4	+0·2	6. 28. 8·0	−0·1
	557	10·5	8·6	−1·2	8·2	+0·1
	585	10·5	10·0	+1·2	8·2	+0·1
3028	536	10·5	19. 58. 27·5	−0·3	6. 29. 59·6	−0·1
	551	10·5	29·2	+2·6	59·9	+0·2
	585	10·5	26·3	−2·4	59·6	−0·1
3033	536	10·0	20. 0. 22·5	+0·3	5. 48. 28·8	−0·6
	563	10·5	22·1	−0·3	30·4	+1·0
	588	10·5	22·2	−0·2	29·1	−0·3
3034	535	9·5	20. 0. 29·5	−0·6	5. 35. 54·7	0·0
	551	10·0	30·3	+0·6	55·3	+0·6
	562	9·0	30·0	+0·1	54·2	−0·5
3039	542	10·5	20. 1. 56·5	+0·6	6. 3. 48·1	0·0
	562	10·5	56·2	+0·2	48·3	+0·2
	574	10·5	55·7	−0·6	48·0	−0·1
3040	542	10·5	20. 2. 22·3	+0·5	4. 45. 27·8	+0·1
	557	10·5	21·7	−0·2	27·6	−0·1
	565	10·5	21·6	−0·4	27·6	−0·1
3042	557	10·5	20. 3. 14·6	+0·4	4. 39. 23·9	−0·4
	563	10·5	15·6	+1·6	25·1	+0·8
	585	10·5	12·7	−2·0	24·0	−0·3
3043	551	10·0	20. 3. 22·8	+0·4	5. 39. 10·6	+0·1
	562	10·0	22·9	+0·6	9·5	−1·0
	589	9·5	21·7	−1·2	11·4	+0·9
3051	545	10·0	20. 6. 30·4	+0·6	4. 19. 2·9	−0·2
	551	10·0	30·3	+0·5	3·4	+0·3
	585	10·0	29·0	−1·0	2·9	−0·2
3053	562	10·0	20. 6. 42·6	+0·7	6. 31. 50·3	−0·4
	574	10·0	43·0	+1·4	50·5	−0·2
	588	10·5	41·1	−1·9	51·3	+0·6
3057	551	10·5	20. 8. 8·6	−0·1	5. 28. 54·1	−0·3
	585	10·5	8·4	−0·4	54·4	0·0
	589	10·5	9·0	+0·4	54·7	+0·3
3061	574	10·5	20. 9. 8·7	+1·3	6. 10. 22·1	−0·7
	585	10·5	6·9	−1·6	22·3	−0·5
	588	10·5	8·2	+0·5	23·9	+1·1
3062	542	10·5	20. 9. 30·2	+1·2	4. 33. 52·0	0·0
	585	10·5	28·4	−1·0	52·3	+0·3
	589	10·5	29·0	−0·2	51·7	−0·3
3067	542	10·0	20. 11. 39·7	−0·5	4. 31. 49·6	+0·7
	574	10·0	40·7	+0·7	48·8	−0·1
	589	10·0	39·9	−0·2	48·4	−0·5
3068	549	10·0	20. 11. 44·6	−0·2	5. 41. 58·5	+1·2
	551	10·0	44·3	−0·6	56·7	−0·6
	566	10·0	45·2	+0·7	56·6	−0·7
3071	557	10·0	20. 12. 3·8	+1·1	6. 9. 8·3	+1·3
	562	10·0	3·1	0·0	7·1	+0·1
	586	10·0	2·3	−1·3	5·7	−1·3
3075	542	10·5	20. 12. 54·3	+0·9	4. 30. 55·4	+1·9
	585	10·5	53·4	−0·1	52·7	−0·8
	586	10·5	53·9	−0·7	52·4	−1·1
3077	551	10·0	20. 14. 32·8	−0·7	7. 0. 36·4	+0·1
	557	10·0	33·1	−0·2	36·4	+0·1
	562	10·0	33·6	+0·7	36·1	−0·2
3080	549	10·0	20. 16. 13·0	+2·1	4. 21. 49·9	+2·0
	551	10·0	10·7	−0·6	47·6	−0·3
	586	10·0	10·0	−1·4	46·3	−1·6

2949 on 542. 10″ have been taken off the circle-reading.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3085	542	10·5	20. 17. 54·1	+1·1	5. 7. 52·1	0·0
	557	10·5	53·8	+0·7	51·6	−0·5
	585	10·5	52·0	−1·8	52·7	+0·6
3088	557	10·5	20. 19. 1·1	−1·1	6. 56. 52·0	+0·8
	566	10·5	2·1	+0·7	52·1	+0·9
	574	10·0	2·0	+0·6	51·7	+0·5
	586	10·5	1·5	−0·4	49·0	−2·2
3089	562	10·5	20. 19. 38·1	+0·4	5. 30. 38·1	+0·8
	585	10·5	36·6	−1·7	35·1	−2·2
	588	10·5	38·8	+1·4	38·8	+1·5
3091	549	9·0	20. 19. 61·8	+2·4	5. 45. 48·2	+1·6
	551	9·5	59·2	−1·5	46·8	+0·2
	586	9·0	59·6	−0·9	44·8	−1·8
3093	557	10·5	20. 21. 30·3	+2·8	5. 25. 4·0	−0·4
	562	10·0	27·4	−1·3	5·3	+0·9
	591	10·0	27·3	−1·4	3·8	−0·6
3094	542	9·0	20. 21. 37·1	−0·5	4. 40. 9·6	+0·5
	549	9·5	38·3	+1·0	8·1	−1·0
	588	9·5	37·1	−0·5	9·6	+0·5
3097	565	10·5	20. 22. 13·9	−1·7	4. 20. 50·1	−1·1
	604	10·5	15·2	−0·2	52·3	+1·1
	606	10·5	17·2	+2·1	51·3	+0·1
3098	562	10·5	20. 22. 30·3	−1·0	5. 23. 2·2	+0·6
	591	10·5	31·1	+0·1	1·6	0·0
	597	10·5	31·7	+1·0	0·9	−0·7
3099	542	10·0	20. 22. 42·3	+1·9	5. 5. 21·4	+0·9
	585	10·0	39·9	−1·3	20·1	−0·4
	586	10·0	40·6	−0·4	19·9	−0·6
3100	551	10·0	20. 22. 48·2	−1·2	6. 15. 35·2	0·0
	565	10·0	49·2	+0·5	35·4	+0·2
	566	10·5	49·3	+0·7	34·9	−0·3
3101	585	10·5	20. 23. 6·6	−0·4	5. 36. 2·9	−1·4
	591	10·5	7·2	+0·4	4·5	+0·2
	602	10·5	6·9	0·0	5·5	+1·2
3102	557	10·5	20. 23. 33·0	−0·7	5. 16. 24·3	+0·1
	574	10·5	34·0	+0·7	24·8	+0·6
	604	10·0	33·6	+0·1	23·5	−0·7
3103	551	9·5	20. 23. 41·5	−0·8	6. 15. 21·2	+0·2
	565	9·5	43·0	+1·6	20·9	−0·1
	566	9·5	41·6	−0·7	20·9	−0·1
3104	586	10·0	20. 23. 45·5	−0·5	6. 51. 41·0	+0·4
	597	10·0	46·0	+0·4	39·6	−1·0
	605	10·0	45·8	0·0	41·3	+0·7
3107	588	10·5	20. 24. 35·1	+0·2	7. 1. 25·2	+0·3
	597	10·5	34·6	−0·7	24·3	−0·6
	605	10·5	35·2	+0·4	25·2	+0·3
3111	585	10·5	20. 27. 6·4	−0·9	4. 39. 51·5	+0·9
	591	10·5	7·7	+0·7	50·8	+0·2
	604	10·5	7·2	+0·2	49·5	−1·1
3112	574	10·5	20. 27. 15·2	+1·2	5. 14. 29·8	+0·2
	589	11·0	13·8	−0·7	29·1	−0·5
	604	10·5	14·0	−0·7	30·0	+0·4
3114	565	10·0	20. 28. 3·7	−0·5	4. 58. 15·0	+0·7
	566	10·0	3·9	−0·3	15·4	+1·1
	602	10·5	4·8	+0·9	12·6	−1·7
3115	562	10·5	20. 28. 25·1	+0·3	6. 37. 22·4	+0·5
	585	10·5	24·8	−0·2	21·5	−0·4
	586	10·5	24·7	−0·3	21·8	−0·1
3116	557	10·5	20. 28. 34·1	+0·5	5. 45. 9·4	−0·4
	597	10·0	34·2	+0·6	9·1	−0·7
	605	10·0	33·0	−1·1	11·0	+1·2
3120	542	9·0	20. 29. 12·1	−0·1	5. 22. 4·7	−0·2
	589	9·0	12·6	+0·6	4·0	−0·9
	606	9·5	11·9	−0·4	6·1	+1·2
3121	557	10·5	20. 29. 35·2	−0·1	4. 43. 13·9	+0·4
	585	10·5	34·6	−0·9	13·2	−0·3
	604	10·5	36·0	+0·9	13·4	−0·1
3123	551	9·5	20. 29. 58·1	−1·2	5. 55. 19·7	−0·4
	592	9·0	59·1	+0·3	20·7	+0·6
	605	9·0	59·6	+1·1	20·0	−0·1
3124	586	10·5	20. 30. 1·1	−2·4	6. 53. 24·1	−1·1
	588	11·0	3·6	+2·2	26·6	+1·4
	602	10·5	2·6	+0·4	24·9	−0·3
3126	565	10·5	20. 30. 25·9	+0·4	4. 12. 12·8	−0·6
	566	10·5	25·1	−0·4	13·7	+0·3
	607	10·5	25·4	−0·1	13·7	+0·3
3127	562	10·5	20. 30. 50·8	0·0	6. 31. 41·3	+0·7
	591	10·5	50·4	−0·7	40·8	+0·2
	597	10·5	51·3	+0·9	39·8	−0·8
3128	542	9·0	20. 30. 58·0	+1·0	5. 20. 18·2	+0·3
	589	9·0	57·1	−0·3	17·7	−0·2
	606	9·0	56·9	−0·6	17·9	0·0

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3129	562	10·0	20. 31. 7·6	+0·3	6. 29. 19·1	+0·2
	591	10·0	7·1	−0·5	18·8	−0·1
	597	10·0	7·5	+0·2	18·8	−0·1
3130	542	10·5	20. 31. 10·0	0·0	6. 4. 47·4	+0·1
	604	10·5	9·7	−0·4	45·9	−1·4
	605	10·5	10·3	+0·4	48·5	+1·2
3131	574	10·5	20. 31. 59·5	+1·2	6. 36. 23·9	−1·2
	591	10·5	57·6	−2·1	25·1	0·0
	606	10·5	59·2	+0·7	26·4	+1·3
3132	586	10·0	20. 31. 58·5	−1·0	6. 19. 8·1	−0·2
	588	10·0	59·1	0·0	8·4	+0·1
	606	10·0	59·6	+0·8	8·5	+0·2
3136	551	10·0	20. 33. 47·0	+0·2	6. 11. 32·4	+0·5
	585	10·0	47·4	+0·8	32·0	+0·1
	586	10·0	46·3	−1·0	31·4	−0·5
3137	562	10·5	20. 34. 32·4	−0·8	5. 16. 47·5	+1·6
	597	10·5	33·8	+1·1	45·5	−0·4
	604	10·5	32·8	−0·3	44·7	−1·2
3141	551	10·0	20. 35. 51·4	−1·5	4. 11. 54·6	−0·8
	591	9·5	52·1	−0·8	56·2	+0·8
	605	9·5	54·9	+2·3	55·4	0·0
3142	557	10·5	20. 36. 2·6	−1·1	5. 48. 38·6	−0·3
	589	10·5	3·5	+0·3	38·4	−0·5
	605	10·5	3·9	+0·9	39·6	+0·7
3143	585	10·0	20. 36. 20·2	0·0	6. 29. 54·6	−0·4
	592	10·0	20·1	−0·2	55·1	+0·1
	607	10·0	20·4	+0·3	55·4	+0·4
3144	586	10·5	20. 36. 20·0	−0·3	6. 21. 21·0	−0·9
	602	10·5	20·4	+0·3	22·8	+0·9
	606	10·5	20·2	0·0	22·0	+0·1
3145	586	10·5	20. 36. 33·6	+0·5	6. 22. 35·1	−0·2
	602	10·5	33·2	−0·2	34·5	−0·8
	606	10·5	33·2	−0·2	36·2	+0·9
3146	588	10·0	20. 36. 42·6	−0·7	4. 32. 58·6	−0·8
	591	10·0	43·3	+0·1	58·8	−0·6
	605	10·0	43·6	+0·5	60·8	+1·4
3147	574	10·5	20. 36. 58·2	+0·3	6. 14. 2·3	−0·9
	597	10·5	58·0	0·0	3·2	0·0
	604	10·5	57·9	−0·2	4·0	+0·8
3150	589	10·0	20. 37. 13·3	−0·4	6. 55. 32·1	−0·9
	592	10·0	13·6	+0·2	33·3	+0·3
	607	10·0	13·6	+0·2	33·6	+0·6
3151	557	10·5	20. 37. 19·1	+1·0	4. 52. 45·8	+0·7
	592	10·0	18·1	−0·3	45·3	+0·2
	604	10·0	17·7	−0·8	44·1	−1·0
3154	585	10·5	20. 38. 35·3	+0·2	6. 51. 23·8	−0·4
	589	10·5	35·6	+0·7	24·3	+0·1
	606	10·5	34·6	−1·1	24·5	+0·3
3155	586	10·5	20. 39. 14·3	+0·1	5. 29. 40·6	−0·5
	591	10·5	14·4	+0·3	41·5	+0·4
	597	10·5	13·9	−0·4	41·2	+0·1
3159	574	10·5	20. 40. 51·4	+0·7	5. 6. 39·8	+0·3
	585	10·5	50·0	−1·2	39·3	−0·2
	591	10·5	51·4	+0·7	39·4	−0·1
3163	551	9·5	20. 43. 11·2	−0·2	6. 52. 57·3	+0·3
	589	8·0	11·6	+0·5	56·1	−0·9
	592	8·0	11·2	−0·2	57·7	+0·7
3165	557	10·5	20. 43. 34·6	+0·6	6. 59. 53·7	+1·1
	586	10·5	34·2	−0·2	50·9	−1·7
	592	10·5	34·2	−0·2	53·2	+0·6
3167	585	10·5	20. 44. 51·5	−0·6	5. 56. 58·1	+0·5
	588	10·5	52·0	+0·2	58·5	+0·9
	591	10·5	51·8	−0·2	57·1	−0·5
	597	10·5	52·3	+0·6	56·8	−0·8
3169	551	10·0	20. 45. 11·7	−0·9	6. 55. 11·6	+0·6
	589	10·5	12·4	+0·4	10·9	−0·1
	592	10·5	12·4	+0·4	10·6	−0·4
3170	557	10·5	20. 45. 16·7	−1·0	6. 31. 2·8	+0·6
	591	10·0	17·7	+0·7	2·0	−0·2
	602	10·5	17·5	+0·3	1·9	−0·3
3171	585	10·5	20. 45. 17·6	−0·9	5. 52. 43·2	+0·8
	586	10·5	17·6	−0·9	42·2	−0·2
	597	10·5	19·5	+2·0	41·9	−0·5
3175	557	10·5	20. 47. 55·0	+0·1	4. 39. 59·2	+0·7
	574	10·5	56·0	+1·3	58·9	+0·4
	586	10·5	53·8	−1·3	57·5	−1·0
3184	565	10·5	20. 50. 52·9	−0·3	6. 9. 2·5	0·0
	585	10·5	53·8	+1·1	2·8	+0·3
	589	10·5	52·6	−0·8	2·1	−0·4
3185	557	10·0	20. 51. 1·4	−0·1	4. 31. 28·8	−0·2
	585	10·0	1·0	−0·6	29·3	+0·3
	589	10·0	2·0	+0·6	29·0	0·0

3102. N. f. of 2 stars. 3112. N. p. of 2 stars.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
3188	565	10·0	20. 52. 5·0	−0·3	5. 43. 52·4	+0·5
	566	10·0	5·5	+0·5	52·3	+0·4
	586	10·0	5·1	−0·2	51·0	−0·9
3191	565	10·5	20. 53. 10·0	+0·3	5. 12. 58·0	−0·6
	566	10·5	9·9	+0·1	58·4	−0·2
	588	10·5	9·4	−0·5	59·3	+0·7
3196	557	10·5	20. 55. 9·5	+0·8	4. 30. 38·1	+0·7
	585	10·5	8·7	−0·1	37·6	+0·2
	586	10·0	8·2	−0·7	36·6	−0·8
3197	562	10·5	20. 55. 19·8	+1·6	5. 22. 2·6	−0·3
	586	10·5	17·2	−2·1	2·5	−0·4
	602	10·5	19·2	+0·7	3·5	+0·6
3199	585	10·5	20. 56. 24·4	−1·1	5. 2. 14·3	−0·3
	597	10·5	25·3	+0·1	14·7	+0·1
	606	10·5	26·0	+1·1	14·9	+0·3
3200	557	9·5	20. 56. 26·2	−1·2	4. 52. 44·6	−0·2
	588	9·5	26·5	−0·8	45·1	+0·3
	604	9·5	28·7	+2·0	44·8	0·0
3201	565	10·0	20. 56. 35·1	−1·1	6. 50. 60·7	0·0
	566	10·0	35·3	−0·7	59·5	−1·2
	592	10·0	36·6	+1·6	62·0	+1·3
3202	565	9·5	20. 57. 42·7	+0·2	6. 48. 49·0	−0·3
	566	9·5	42·1	−0·9	48·7	−0·6
	592	9·0	42·9	+0·5	50·1	+0·8
3205	586	10·0	20. 58. 8·3	−1·1	5. 55. 40·4	−1·3
	592	9·5	9·8	+1·2	51·2	+0·5
	606	10·0	8·8	−0·3	51·5	+0·8
3207	557	10·0	20. 58. 44·1	+1·0	4. 42. 14·9	+0·1
	602	10·0	41·3	−2·5	14·1	−0·7
	604	10·0	44·5	+1·5	15·4	+0·6
3208	562	10·5	20. 59. 6·3	−1·6	6. 13. 48·0	+0·7
	597	10·5	7·5	+0·3	47·5	+0·2
	606	10·5	8·2	+1·5	46·3	−1·0
3209	585	10·5	20. 59. 7·2	−0·4	4. 32. 44·9	+0·2
	588	10·5	7·3	−0·2	44·6	−0·1
	605	10·5	8·0	+0·6	44·6	−0·1
3212	562	10·5	20. 59. 58·8	−0·1	5. 19. 4·7	+1·5
	589	10·5	58·8	−0·1	2·7	−0·5
	597	—	59·1	+0·3	2·2	−1·0
3216	565	8·5	21. 2. 48·4	−0·3	6. 37. 26·0	+0·1
	566	9·0	48·7	+0·2	26·5	+0·6
	586	9·5	48·6	0·0	25·3	−0·6
3218	565	9·5	21. 4. 45·7	+0·3	4. 59. 26·3	−0·5
	566	10·0	44·9	−0·8	27·7	+0·9
	586	10·0	46·0	+0·7	26·5	−0·3
3221	565	10·5	21. 6. 57·5	+0·1	4. 38. 36·2	+0·4
	585	10·5	57·1	−0·4	35·7	−0·1
	591	10·5	57·6	+0·2	35·6	−0·2
3223	586	10·5	21. 7. 0·5	−0·4	6. 56. 48·5	+0·3
	592	10·5	0·7	0·0	48·2	0·0
	604	10·5	0·8	+0·2	47·9	−0·3
3224	585	10·5	21. 7. 7·5	−1·1	5. 21. 2·7	−0·6
	589	10·5	8·7	+0·6	3·2	−0·1
	602	10·5	8·6	+0·4	4·1	+0·8
3226	591	10·5	21. 8. 24·0	+0·9	5. 54. 47·9	−2·3
	597	10·5	22·6	−1·2	51·5	+1·3
	602	10·5	23·6	+0·3	51·1	+0·9
3227	591	10·5	21. 9. 1·8	+1·2	6. 19. 49·9	+0·3
	597	10·5	0·5	−1·0	50·6	+1·0
	604	10·5	0·9	−0·2	48·4	−1·2
3228	585	10·5	21. 9. 35·0	−1·9	6. 27. 50·5	+0·7
	586	10·5	35·9	−0·3	49·2	−0·6
	604	10·5	37·3	+2·0	49·8	0·0
3232	565	9·5	21. 12. 35·9	−0·2	4. 42. 31·1	+0·1
	566	10·0	36·1	0·0	31·4	+0·3
	589	9·5	36·4	+0·4	30·6	−0·4
3233	585	10·5	21. 12. 54·1	+0·2	6. 27. 40·9	+1·0
	586	10·0	53·5	−0·9	39·0	−0·9
	591	10·0	54·4	+0·7	39·8	−0·1
3234	566	10·0	21. 13. 2·8	+1·1	7. 0. 58·6	+0·2
	588	10·0	1·8	−0·7	59·0	+0·6
	589	10·0	2·1	−0·2	57·6	−0·8
3237	585	10·0	21. 13. 42·9	+0·8	5. 17. 50·6	−0·4
	588	10·0	41·8	−0·7	51·6	+0·6
	591	10·0	42·3	0·0	50·9	−0·1
3243	565	10·5	21. 16. 16·3	+0·2	7. 2. 34·7	0·0
	585	10·5	16·1	−0·2	35·2	+0·5
	589	10·5	16·1	−0·2	34·2	−0·5
3249	589	10·5	21. 19. 45·9	−0·2	5. 48. 2·1	+0·2
	597	10·5	46·3	+0·5	1·9	0·0
	604	10·5	45·7	−0·5	1·7	−0·2

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
3252	586	10·5	21. 20. 11·2	−0·9	5. 5. 19·3	−0·6
	588	10·5	11·2	−0·9	20·7	+0·8
	602	10·5	13·4	+2·0	19·6	−0·3
3253	589	10·5	21. 20. 43·9	+1·1	6. 43. 14·9	+0·5
	597	10·5	42·6	−1·2	14·0	−0·4
	604	10·5	43·5	+0·4	14·3	−0·1
3254	586	10·5	21. 20. 53·5	−0·5	5. 9. 36·0	+0·3
	591	10·5	54·7	+1·1	35·2	−0·5
	604	10·5	53·6	−0·4	35·8	+0·1
3262	585	10·5	21. 23. 45·1	−0·9	5. 45. 37·8	−0·9
	588	10·5	46·0	+0·5	39·4	+0·7
	597	10·5	45·9	+0·3	39·0	+0·3
3264	585	9·0	21. 24. 59·1	−2·2	6. 21. 26·9	+0·5
	591	9·0	60·8	+0·7	26·2	−0·2
	592	9·0	61·3	+1·5	26·2	−0·2
3265	586	10·5	21. 25. 0·4	−1·0	5. 23. 8·6	−0·5
	589	10·5	1·3	+0·3	9·2	+0·1
	602	10·5	1·5	+0·6	9·4	+0·3
3271	589	10·5	21. 27. 23·2	+0·8	6. 14. 57·3	−0·6
	597	10·5	22·3	−0·7	59·2	+1·3
	604	10·5	22·5	−0·3	57·3	−0·6
3274	591	10·5	21. 27. 57·5	−1·1	6. 2. 6·1	−0·3
	602	10·5	58·9	+1·1	7·2	+0·8
	606	10·5	58·3	+0·2	5·9	−0·5
3275	556	10·5	21. 28. 2·4	−1·5	6. 8. 17·6	−2·8
	592	10·5	3·4	+0·2	19·9	−0·5
	605	10·5	4·2	+1·5	23·8	+3·4
3277	586	10·0	21. 28. 25·1	−0·3	4. 56. 52·8	−1·1
	592	10·0	25·4	+0·1	54·1	+0·2
	605	10·0	25·3	0·0	54·7	+0·8
3278	591	10·5	21. 28. 27·9	−0·6	5. 58. 47·6	−0·1
	602	10·5	29·5	+1·9	48·1	+0·4
	606	10·5	27·4	−1·4	47·4	−0·3
3281	565	10·5	21. 29. 52·8	+0·3	4. 13. 16·3	+0·2
	604	10·5	52·1	−0·4	15·6	−0·5
	606	10·5	52·7	+0·2	16·4	+0·3
3284	589	10·5	21. 30. 17·9	−0·3	6. 32. 49·8	−0·7
	597	11·0	17·7	−0·7	51·1	+0·6
	619	10·5	18·7	+1·0	50·6	+0·1
3285	585	9·5	21. 30. 37·5	−0·6	6. 0. 17·2	−1·0
	591	9·5	38·0	+0·2	17·8	−0·4
	616	9·5	38·3	+0·6	19·7	+1·5
3286	562	10·0	21. 30. 39·1	+0·9	7. 1. 28·6	−1·0
	592	10·0	39·2	+1·1	30·5	+0·9
	615	10·5	37·5	−2·0	29·8	+0·2
3288	588	10·0	21. 31. 45·3	+0·7	5. 38. 19·5	+0·3
	592	10·0	44·5	−0·4	19·5	+0·3
	604	10·5	44·6	−0·3	18·5	−0·7
3289	565	10·0	21. 32. 20·8	+0·5	6. 24. 34·9	+0·1
	566	10·0	20·2	−0·5	35·1	+0·3
	606	10·0	20·6	+0·2	34·3	−0·5
3293	597	10·5	21. 33. 14·3	−0·7	6. 22. 40·9	+0·6
	604	10·5	14·2	−0·8	40·1	−0·2
	619	10·5	15·5	+1·3	39·8	−0·5
3296	591	10·5	21. 33. 34·3	−0·5	6. 0. 25·8	+1·1
	604	10·5	35·2	+0·9	23·7	−1·0
	616	10·5	34·2	−0·6	24·7	0·0
3297	562	9·5	21. 33. 35·1	+0·2	7. 4. 8·7	−0·3
	602	9·5	35·3	+0·6	9·7	+0·7
	615	10·0	34·6	−0·7	8·6	−0·4
3299	585	10·5	21. 34. 5·3	−0·6	5. 31. 38·5	−1·3
	589	10·5	5·9	+0·3	40·4	+0·6
	606	10·5	5·8	+0·1	40·6	+0·8
3302	566	10·5	21. 34. 47·4	−0·3	5. 47. 6·4	+1·3
	597	10·5	47·9	+0·5	4·4	−0·7
	615	10·5	47·5	−0·2	4·5	−0·6
3303	565	10·0	21. 34. 61·1	+1·3	5. 1. 9·4	+1·2
	588	10·0	59·6	−0·7	8·3	+0·1
	592	10·5	59·6	−0·7	7·0	−1·2
3308	562	10·5	21. 36. 38·6	0·0	5. 8. 24·1	+0·2
	591	10·5	38·5	−0·1	23·5	−0·4
	602	10·5	38·6	0·0	24·0	+0·1
3309	565	9·5	21. 38. 5·9	+0·7	6. 48. 2·7	−0·1
	589	9·5	5·5	0·0	2·6	−0·2
	592	9·5	5·2	−0·5	3·0	+0·2
3310	589	10·5	21. 38. 13·9	−0·2	5. 43. 17·1	−0·2
	591	10·5	13·6	−0·6	17·7	+0·4
	597	10·5	14·4	+0·6	17·0	−0·3
3313	585	10·5	21. 40. 2·5	−2·1	5. 26. 50·5	0·0
	588	10·5	5·0	+1·4	51·1	+0·6
	597	10·5	4·5	+0·7	49·9	−0·6

3226. N. f. star of 2.
3296. The north one of 2 stars.

3275. The N.P.Ds are discordant. The star faint.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3318	565	9·0	21. 42. 9·5	0·0	6. 42. 20·9	+0·4
	589	9·5	9·9	+0·7	19·7	−0·8
	592	9·0	9·1	−0·7	20·8	+0·3
3321	585	10·0	21. 42. 39·7	−1·0	5. 29. 9·7	−0·6
	588	10·0	41·6	+1·7	10·3	0·0
	597	10·0	39·9	−0·7	11·0	+0·7
3322	591	10·0	21. 43. 34·7	−0·3	4. 20. 11·7	−0·2
	592	10·0	34·8	−0·2	12·1	+0·2
	602	10·0	35·6	+0·7	11·8	−0·1
3327	565	10·5	21. 45. 20·6	+0·2	7. 0. 27·2	+0·3
	591	10·5	20·6	+0·2	27·0	+0·1
	604	10·5	20·4	−0·2	26·6	−0·3
3329	585	10·0	21. 45. 28·9	−1·0	6. 19. 49·5	−0·5
	592	10·0	29·1	−0·7	50·8	+0·8
	597	10·0	30·4	+1·5	49·6	−0·4
3331	565	10·5	21. 46. 16·2	0·0	7. 2. 4·9	+0·9
	591	10·5	16·3	+0·2	3·4	−0·6
	604	10·5	16·0	−0·4	3·7	−0·3
3334	565	9·5	21. 48. 27·7	+0·7	6. 21. 15·8	−0·7
	585	9·5	27·0	−0·5	16·9	+0·4
	592	9·5	27·2	−0·2	16·7	+0·2
3337	565	9·5	21. 49. 50·0	+1·5	6. 20. 25·9	−0·4
	585	9·5	48·1	−1·7	25·7	−0·6
	592	9·5	49·1	0·0	27·2	+0·9
3339	588	10·5	21. 50. 0·9	0·0	5. 48. 43·2	+0·9
	591	10·5	1·0	+0·2	41·3	−1·0
	597	10·5	0·8	−0·2	42·4	+0·1
3340	588	10·5	21. 50. 12·2	+1·5	5. 36. 34·8	+1·3
	591	10·5	10·8	−0·6	32·0	−1·5
	604	10·5	10·5	−1·0	33·8	+0·3
3344	565	10·5	21. 51. 35·0	−0·4	4. 45. 51·0	−1·3
	597	10·5	34·8	−0·6	52·3	0·0
	604	10·5	36·2	+1·1	53·6	+1·3
3346	585	9·0	21. 52. 41·4	−1·7	6. 38. 27·8	+0·5
	592	9·0	42·2	−0·4	27·9	+0·6
	602	9·0	43·6	+2·1	26·2	−1·1
3354	591	10·5	21. 54. 6·0	+1·7	7. 0. 56·2	−0·5
	597	10·5	4·8	−0·6	56·7	0·0
	615	10·5	4·5	−1·1	57·2	+0·5
3357	585	10·5	21. 54. 46·2	−1·3	5. 28. 13·2	−1·0
	592	10·5	47·5	+0·6	13·7	−0·5
	619	10·5	47·6	+0·7	15·7	+1·5
3358	591	11·0	21. 54. 52·7	+0·8	5. 45. 32·2	−2·8
	606	11·0	51·7	−0·8	37·7	+2·7
3360	585	10·0	21. 55. 52·6	+1·2	4. 14. 4·5	+0·1
	604	10·0	50·9	−0·7	3·8	−0·6
	629	10·0	51·0	−0·6	4·8	+0·4
3361	631	11·0	21. 55. 59·5	−0·3	5. 17. 47·5	+1·0
	632	10·5	59·7	0·0	45·6	−0·9
	639	11·0	59·9	+0·3	46·3	−0·2
3362	565	10·5	21. 56. 14·1	−0·1	4. 46. 10·6	+0·6
	597	10·5	13·7	−0·6	9·3	−0·7
	629	10·5	14·8	+0·8	10·1	+0·1
3364	588	10·5	21. 56. 32·9	−0·7	6. 28. 58·5	+2·1
	604	10·5	32·9	−0·7	55·2	−1·2
	606	10·5	34·1	+1·4	55·6	−0·8
3365	591	10·5	21. 56. 58·4	+0·6	7. 3. 19·2	+0·3
	602	10·5	57·4	−1·3	18·1	−0·8
	615	10·0	58·4	+0·6	19·3	+0·4
3367	585	9·0	21. 57. 36·6	+1·4	6. 39. 2·5	0·0
	592	9·5	36·0	+0·4	1·9	−0·6
	619	10·0	34·7	−1·9	3·2	+0·7
3370	591	10·0	21. 58. 32·8	+0·6	4. 18. 56·6	−0·6
	597	10·0	30·8	−1·7	57·7	+0·5
	606	10·5	33·3	+1·1	57·4	+0·2
3371	565	10·0	21. 59. 19·2	+0·5	4. 41. 46·8	+0·8
	597	10·0	17·8	−1·2	44·9	−1·1
	615	10·0	19·5	+0·9	46·4	+0·4
3372	565	9·5	21. 59. 44·7	+0·9	4. 46. 50·0	+0·4
	592	10·0	44·2	+0·3	49·5	−0·1
	604	9·5	43·1	−1·1	49·2	−0·4
3380	585	10·5	22. 1. 54·9	−0·7	5. 35. 25·0	−0·7
	589	10·5	55·5	+0·1	27·1	+1·4
	597	10·5	55·9	+0·7	25·1	−0·6
3382	585	10·5	22. 2. 10·6	−0·6	5. 52. 16·8	−0·3
	602	10·0	10·7	−0·5	17·8	+0·7
	606	10·0	11·7	+1·1	16·6	−0·5
3384	565	10·5	22. 2. 51·4	+0·9	4. 49. 57·3	+0·4
	604	10·5	48·7	−2·5	57·5	+0·6
	615	10·5	52·0	+1·7	55·9	−1·0
3388	589	10·5	22. 3. 15·0	+0·4	4. 51. 17·4	−0·8
	604	10·5	13·4	−1·7	16·9	−1·3
	619	10·5	15·6	+1·1	20·2	+2·0

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3390	591	10·0	22. 4. 7·6	−0·3	6. 26. 56·1	+0·5
	597	10·5	7·5	−0·5	55·2	−0·4
	606	10·0	8·2	+0·7	55·4	−0·2
3392	585	10·0	22. 5. 11·9	−0·7	5. 30. 34·6	−0·8
	602	10·0	12·8	+0·6	35·9	+0·5
	629	10·0	12·6	+0·3	35·7	+0·3
3393	565	10·0	22. 5. 39·0	+0·6	4. 49. 56·5	−0·2
	604	10·0	38·1	−0·5	56·7	0·0
	619	10·0	38·4	−0·1	56·9	+0·2
3395	585	10·0	22. 5. 54·6	−0·7	6. 21. 34·9	−0·6
	592	10·0	55·3	+0·5	35·5	0·0
	629	10·0	55·0	0·0	36·1	+0·6
3396	588	10·5	22. 5. 57·6	+0·2	6. 9. 6·9	−0·1
	606	10·5	58·0	+0·8	7·0	0·0
	633	10·5	57·0	−0·8	7·0	0·0
3397	589	10·5	22. 6. 15·5	+0·9	6. 37. 10·4	−0·5
	615	10·5	14·6	−0·7	10·6	−0·3
	632	10·5	15·0	0·0	11·6	+0·7
3399	597	10·5	22. 6. 45·4	−0·8	5. 52. 59·7	−0·3
	631	10·5	45·8	−0·2	60·5	+0·5
	633	10·5	46·4	+0·8	59·8	−0·2
3401	597	10·5	22. 8. 5·8	+0·3	4. 51. 40·8	0·0
	604	10·5	4·0	−2·0	40·6	−0·2
	631	10·5	7·1	+1·9	40·9	+0·1
3402	591	10·0	22. 8. 11·8	−0·2	4. 35. 8·8	−0·5
	606	10·0	12·9	+1·1	9·6	+0·3
	632	10·0	11·2	−1·0	9·5	+0·2
3405	591	10·5	22. 9. 4·2	−0·2	4. 35. 59·0	−0·5
	606	10·5	4·3	−0·1	59·7	+0·2
	632	10·5	4·7	+0·4	59·9	+0·4
3406	597	10·5	22. 9. 15·9	+0·3	5. 56. 7·9	−0·9
	602	10·5	16·1	+0·6	8·3	−0·5
	619	10·5	15·0	−1·1	10·2	+1·4
3414	585	10·0	22. 11. 17·3	+2·0	6. 57. 6·6	+0·7
	589	10·0	16·8	+1·1	5·6	−0·3
	604	10·0	14·4	−3·3	5·4	−0·5
3416	585	10·0	22. 13. 50·3	+0·5	6. 38. 6·8	−0·4
	592	10·0	50·1	+0·2	7·4	+0·2
	607	10·0	49·5	−0·9	7·3	+0·1
3417	588	10·5	22. 13. 54·7	−0·5	4. 44. 39·6	0·0
	597	10·5	54·9	−0·2	39·6	0·0
	615	10·5	55·8	+0·9	39·5	−0·1
3419	589	10·5	22. 14. 8·5	+1·3	7. 3. 42·4	−0·5
	604	10·5	6·1	−3·2	44·0	+1·1
	619	10·5	8·9	+2·0	42·4	−0·5
3420	591	10·5	22. 14. 50·1	−0·1	4. 33. 27·1	−0·1
	604	10·5	50·5	+0·4	27·0	−0·2
	606	10·5	50·0	−0·2	27·5	+0·3
3421	585	10·0	22. 15. 31·1	+0·2	6. 55. 41·7	−0·7
	602	10·0	31·0	0·0	42·8	+0·4
	607	10·0	30·8	−0·4	42·6	+0·2
3422	585	9·0	22. 16. 14·3	+1·3	5. 18. 44·6	−0·1
	592	9·0	13·0	−0·6	44·9	+0·2
	631	9·5	13·0	−0·6	44·7	0·0
3423	589	10·5	22. 16. 25·2	−1·3	6. 6. 9·0	−0·3
	597	10·5	26·0	0·0	9·1	−0·2
	629	10·5	26·9	+1·4	9·9	+0·6
3424	591	10·0	22. 16. 33·3	+0·1	4. 34. 54·3	−0·1
	592	10·0	33·2	0·0	53·6	−0·8
	606	10·0	33·2	0·0	55·4	+1·0
3425	589	10·5	22. 17. 23·1	+0·8	6. 3. 39·5	+0·1
	597	10·5	22·9	+0·5	39·0	−0·4
	619	10·5	21·9	−1·1	39·7	+0·3
3427	591	10·5	22. 17. 35·7	−1·1	5. 26. 30·0	−0·6
	606	10·5	37·9	+2·0	51·0	+0·4
	629	10·5	35·9	−0·9	50·9	+0·3
3428	588	10·0	22. 17. 47·6	0·0	7. 3. 39·3	+0·1
	604	10·0	47·7	+0·2	39·4	+0·2
	615	10·0	47·5	−0·2	39·0	−0·2
3431	585	10·0	22. 20. 7·6	0·0	5. 58. 5·3	+0·3
	592	10·0	8·2	+0·9	4·9	−0·1
	602	10·0	7·1	−0·8	4·7	−0·3
3436	585	8·5	22. 22. 31·3	+1·5	6. 13. 33·9	+0·1
	589	9·0	29·9	−0·3	33·1	−0·7
	597	9·0	30·1	−0·5	34·5	+0·7
3441	585	6·0	22. 24. 14·3	+2·3	4. 37. 25·1	−0·8
	592	7·0	12·4	0·0	27·2	+1·3
	604	6·0	10·5	−2·3	25·5	−0·4
3444	585	8·0	22. 24. 42·9	+0·7	4. 30. 34·1	+0·1
	591	8·0	41·9	−0·5	33·6	−0·4
	602	8·0	42·2	−0·1	34·4	+0·4

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
3446	591	10·5	22. 26. 16·8	−0·2	6. 20. 23·4	+0·3	3524	592	10·5	22. 55. 11·6	−1·2	6. 35. 19·4	+0·4
	604	10·5	17·4	+0·8	25·5	+0·4		631	10·5	13·0	+1·2	18·5	−0·5
	615	10·5	16·4	−0·8	22·3	−0·8		633	10·5	12·2	−0·2	19·1	+0·1
3447	589	11·0	22. 26. 39·8	+0·1	4. 16. 9·4	+0·5	3525	597	6·0	22. 55. 23·8	+0·8	6. 25. 46·4	−0·4
	597	10·5	37·6	−2·4	7·9	−1·0		604	6·0	22·4	−1·5	46·9	+0·1
	606	11·0	41·6	+2·1	9·5	+0·6		629	6·0	23·7	+0·7	47·1	+0·3
3451	591	10·5	22. 27. 38·6	−0·3	5. 43. 52·3	−1·3	3529	589	10·0	22. 57. 6·4	−0·3	5. 38. 50·4	+0·2
	597	10·5	40·3	+2·3	54·3	+0·7		591	10·0	6·6	0·0	50·8	+0·6
	604	10·5	37·6	−1·8	54·2	+0·6		615	10·0	6·7	+0·1	49·5	−0·7
3452	588	10·0	22. 27. 41·3	−0·1	4. 9. 57·8	+0·8	3530	588	10·5	22. 57. 9·4	0·0	5. 50. 21·9	+0·6
	597	9·5	41·6	+0·2	56·2	−0·8		606	10·5	8·9	−0·8	21·5	+0·2
	606	10·0	41·2	−0·2	56·9	−0·1		632	10·5	10·0	+0·9	20·5	−0·8
3453	592	10·0	22. 27. 49·2	+1·5	7. 0. 45·8	+0·7	3532	606	11·0	22. 57. 50·7	+0·3	5. 49. 55·9	+0·6
	604	10·5	47·4	−1·9	45·2	+0·1		619	11·0	49·8	−1·1	54·4	−0·9
	615	10·0	48·6	+0·4	44·3	−0·8		632	10·5	51·1	+0·9	55·7	+0·4
3458	588	9·0	22. 29. 11·2	+0·4	5. 40. 45·8	+0·8	3533	589	10·5	22. 57. 56·7	+0·4	6. 49. 4·3	−0·4
	597	8·5	10·5	−0·6	43·1	−1·9		592	10·5	56·2	−0·5	5·2	+0·5
	619	9·0	11·1	+0·3	46·2	+1·2		631	10·5	56·5	0·0	4·5	−0·2
3461	591	10·5	22. 30. 9·8	−0·5	6. 9. 50·2	−0·2	3547	589	10·5	23. 5. 30·0	−0·2	6. 51. 20·6	−0·5
	604	10·5	10·2	+0·2	49·9	−0·5		592	10·5	29·6	−0·9	21·6	+0·5
	606	10·5	10·2	+0·2	51·0	+0·6		606	10·5	30·6	+0·9	21·1	0·0
3467	591	10·0	22. 31. 15·0	−0·5	5. 0. 14·0	−0·4	3550	588	10·5	23. 6. 35·5	+0·8	5. 12. 27·1	+0·8
	597	10·0	15·8	+0·5	15·0	+0·6		591	10·0	34·9	0·0	26·0	−0·3
	606	10·0	15·4	0·0	14·1	−0·3		597	10·5	34·2	−1·0	25·7	−0·6
3469	585	10·5	22. 36. 22·7	−0·2	6. 44. 5·8	−0·1	3554	588	9·5	23. 7. 37·5	+1·5	5. 3. 20·3	+0·7
	589	10·5	22·7	−0·2	6·3	+0·4		592	10·0	35·0	−1·9	19·6	0·0
	591	10·0	22·9	+0·2	5·7	−0·2		604	9·5	36·8	+0·5	18·8	−0·8
3474	585	11·0	22. 39. 25·2	−1·2	5. 32. 20·3	+1·2	3557	589	10·5	23. 8. 23·5	+0·2	5. 52. 54·4	−0·4
	589	10·5	26·7	+1·0	17·7	−1·4		606	10·0	23·5	+0·2	54·8	0·0
	604	10·5	26·0	0·0	19·4	+0·3		619	10·5	23·1	−0·5	55·3	+0·5
3476	585	11·0	22. 40. 2·9	+0·2	6. 23. 46·8	+1·2	3558	591	10·5	23. 8. 38·7	−0·1	4. 52. 33·9	−0·1
	591	10·5	2·7	−0·2	44·3	−1·3		597	10·5	39·2	+0·5	34·4	+0·4
	592	10·5	2·7	−0·2	45·7	+0·1		615	10·5	38·4	−0·5	33·7	−0·3
3477	589	11·0	22. 40. 13·6	−0·5	4. 29. 22·3	+2·5	3559	591	10·5	23. 9. 3·8	−0·6	5. 30. 7·5	−0·1
	597	11·0	14·2	+0·2	18·1	−1·7		604	10·5	4·1	−0·1	7·6	0·0
	604	10·5	14·3	+0·4	19·1	−0·7		629	10·5	4·7	+0·7	7·8	+0·2
3478	589	10·0	22. 40. 20·5	−0·4	4. 13. 30·2	−0·4	3563	592	10·5	23. 9. 41·3	−0·4	6. 48. 14·8	+0·9
	591	10·0	19·7	−1·3	29·6	−1·0		616	10·5	43·0	+2·7	13·4	−0·5
	602	10·0	22·6	+1·9	32·0	+1·4		631	10·5	40·3	−2·2	13·5	−0·4
3480	585	10·0	22. 41. 12·8	−0·3	6. 26. 40·6	−0·2	2566	589	11·0	23. 11. 1·1	+0·5	5. 49. 30·8	+0·1
	592	10·0	13·2	+0·3	40·6	−0·2		606	10·5	0·0	−1·2	30·2	−0·5
	606	10·0	13·0	0·0	41·2	+0·4		632	10·5	1·3	+0·8	31·2	+0·5
3484	591	10·5	22. 42. 52·6	−1·1	5. 9. 30·3	−0·5	3567	597	10·5	23. 11. 4·4	−0·1	4. 54. 2·0	+0·8
	592	10·5	53·9	+0·7	31·7	+0·9		615	10·5	5·0	+0·6	0·5	−0·7
	604	10·5	53·7	+0·4	30·3	−0·5		631	10·5	4·1	−0·5	1·0	−0·2
3491	591	10·5	22. 44. 23·4	−0·4	6. 57. 23·8	−2·2	3568	591	10·0	23. 11. 5·8	+0·1	5. 28. 54·2	−0·2
	597	10·5	23·2	−0·7	26·9	+0·9		604	10·0	5·5	−0·3	54·0	−0·4
	606	10·5	24·2	+1·1	27·3	+1·3		629	10·0	5·7	0·0	55·1	+0·7
3494	585	9·5	22. 45. 38·1	−0·8	4. 5. 60·7	−0·1	3569	589	10·0	23. 11. 6·2	+0·3	5. 47. 52·8	−0·4
	589	9·5	30·6	+0·9	59·8	−1·0		606	10·0	6·1	+0·2	53·5	+0·3
	606	9·5	38·6	−0·2	61·9	+1·1		632	10·0	5·7	−0·5	53·3	+0·1
3496	588	10·5	22. 46. 10·5	+1·2	4. 57. 44·9	−0·4	3571	597	10·5	23. 11. 43·0	−0·9	6. 38. 57·2	−1·3
	604	10·5	9·2	−0·5	45·3	0·0		619	10·5	44·5	+1·8	60·8	+2·3
	606	10·5	9·2	−0·5	45·7	+0·4		633	10·5	43·0	−0·9	57·5	−1·0
3501	591	10·0	22. 47. 54·4	−0·5	6. 10. 51·3	−1·1	3572	591	10·5	23. 12. 27·6	−0·7	6. 26. 13·0	−0·8
	592	10·0	54·2	−0·2	53·6	+1·2		615	10·0	29·5	+2·5	12·9	−0·9
	597	10·5	53·6	+0·8	52·3	−0·1		633	10·5	27·0	−1·7	15·5	−1·7
3509	585	9·0	22. 50. 40·0	+0·5	5. 59. 33·0	−1·1	3573	588	9·0	23. 12. 41·3	+0·2	6. 32. 54·5	+0·2
	592	9·0	39·9	+0·3	34·3	+0·2		604	9·5	41·2	0·0	53·7	−0·6
	619	9·0	39·2	−0·8	35·0	+0·9		616	9·5	41·2	0·0	54·6	+0·3
3510	585	10·0	22. 50. 51·5	−0·9	4. 9. 33·3	+0·1	3578	588	10·0	23. 14. 23·0	−0·7	6. 15. 31·8	0·0
	591	10·0	52·6	+0·3	32·0	−1·2		619	10·0	23·3	−0·2	32·4	+0·6
	604	10·5	52·7	+0·4	34·4	+1·2		631	10·0	24·0	+1·0	31·1	−0·7
3513	589	10·5	22. 52. 7·9	+1·0	4. 13. 23·7	−1·1	3583	589	10·5	23. 15. 36·2	+0·6	5. 19. 35·8	−1·0
	606	10·5	7·1	+0·1	25·7	+0·9		606	10·5	35·5	−0·4	37·2	+0·4
	619	10·5	6·1	−1·0	24·9	+0·1		629	10·5	35·8	0·0	37·4	+0·6
3516	591	10·5	22. 53. 13·3	−2·1	5. 17. 23·5	−1·0	3586	591	10·5	23. 16. 9·0	−1·5	4. 9. 9·1	+0·4
	606	10·5	15·8	+1·4	25·1	+0·6		606	10·5	11·6	+1·3	8·9	+0·2
	631	10·5	15·4	+0·8	24·8	+0·3		632	10·5	10·6	+0·2	8·0	−0·7
3517	591	10·5	22. 53. 22·0	−0·7	5. 13. 39·8	+0·5	3589	597	10·5	23. 17. 8·1	−0·1	5. 30. 42·5	0·0
	597	10·5	22·7	+0·3	37·4	−1·9		615	10·5	8·5	+0·4	41·7	−0·8
	629	10·5	22·7	+0·3	40·7	+1·4		629	10·5	8·0	−0·3	43·4	+0·9
3519	585	9·5	22. 54. 3·4	−1·1	5. 43. 36·4	−0·2	3591	588	10·5	23. 17. 28·2	+0·6	6. 6. 8·0	−0·5
	592	9·0	4·0	−0·2	37·2	+0·6		616	10·5	27·6	−0·3	8·3	−0·2
	632	9·0	4·8	+1·1	36·1	−0·5		619	10·5	27·5	−0·5	9·2	+0·7
3520	589	7·0	22. 54. 15·7	+0·6	5. 24. 11·9	0·0	3594	591	9·5	23. 19. 3·4	+0·2	4. 44. 17·9	−1·1
	604	8·0	15·2	−0·1	12·0	+0·1		597	10·0	2·9	−0·4	18·6	−0·4
	633	7·0	14·9	−0·6	11·9	0·0		632	9·5	3·4	+0·2	20·5	+1·5
3521	591	10·5	22. 54. 39·6	−0·1	5. 21. 5·8	−0·6	3595	597	10·5	23. 19. 47·3	0·0	6. 40. 47·4	−1·9
	597	10·5	39·3	−0·6	6·3	−0·1		615	10·5	47·6	+0·5	50·0	+0·7
	632	10·5	40·2	+0·7	7·1	+0·7		631	10·5	47·1	−0·4	50·6	+1·3

3525 on 629. 10^s have been taken off the observed R.A.

SECOND SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3596	597	10·5	23. 20. 23·7	0·0	5. 0. 25·1	+0·1
	606	10·5	24·0	+0·4	25·9	+0·9
	632	10·5	23·3	−0·5	24·0	−1·0
3597	591	10·5	23. 20. 37·9	−0·3	6. 19. 19·0	−1·0
	629	10·5	38·4	+0·5	20·1	+0·1
	656	10·5	38·0	−0·2	20·8	+0·8
3599	606	10·5	23. 20. 60·9	0·0	6. 27. 6·6	0·0
	619	10·5	59·8	−1·9	6·3	−0·3
	656	10·5	61·9	+1·7	6·8	+0·2
3603	616	10·5	23. 22. 54·7	−1·4	6. 40. 6·5	−0·3
	631	10·5	55·6	+0·2	6·6	−0·2
	655	10·5	56·3	+1·4	7·3	+0·5
3606	606	10·5	23. 23. 50·0	0·0	6. 42. 30·3	+0·5
	631	10·5	48·4	−2·8	29·1	−0·7
	669	10·5	51·5	+2·7	30·1	+0·3
3608	588	8·0	23. 24. 10·5	−0·2	4. 22. 50·6	+0·8
	633	8·0	10·7	0·0	49·9	+0·1
	664	8·0	11·0	+0·3	49·0	−0·8
3610	597	9·5	23. 24. 54·2	+0·2	6. 52. 15·8	+0·2
	656	10·0	54·1	0·0	15·6	0·0
	664	9·5	53·9	−0·4	15·3	−0·3
3612	597	10·0	23. 25. 12·9	−1·4	6. 34. 21·0	−0·3
	629	10·0	13·7	0·0	21·5	+0·2
	669	10·0	14·5	+1·4	21·5	+0·2
3615	606	9·0	23. 25. 48·2	−0·1	4. 47. 25·0	+0·6
	632	9·0	48·2	−0·1	23·9	−0·5
	676	9·0	48·6	+0·4	24·4	0·0
3617	619	10·0	23. 25. 58·5	−1·2	6. 15. 4·7	+0·8
	655	10·0	59·8	+1·0	3·4	−0·5
	664	10·0	59·3	+0·2	3·6	−0·3
3618	616	10·5	23. 26. 38·2	−1·1	6. 45. 37·0	−0·4
	631	10·5	39·2	+0·7	36·9	−0·5
	669	10·5	39·0	+0·4	38·3	+0·9
3619	615	9·0	23. 27. 11·1	−1·7	4. 14. 30·3	+0·2
	656	9·0	13·2	+0·7	29·8	−0·3
	664	9·0	13·4	+0·9	30·2	+0·1
3620	597	10·5	23. 27. 46·2	−0·9	4. 28. 36·3	−0·3
	632	10·5	46·8	−0·2	36·6	0·0
	656	10·5	48·0	+1·2	36·8	+0·2
3624	606	10·0	23. 29. 17·4	+0·3	5. 26. 29·3	+0·2
	619	10·0	16·3	−1·3	28·9	−0·2
	655	10·0	17·9	+1·0	29·2	+0·1
3626	597	9·0	23. 29. 43·7	−1·0	4. 37. 19·5	+0·3
	615	9·0	45·3	+1·0	19·1	−0·1
	629	9·0	44·4	−0·1	19·0	−0·2
3630	606	10·0	23. 31. 51·3	+0·7	6. 39. 6·7	−0·2
	631	10·0	50·6	−0·5	7·0	+0·1
	633	10·0	50·7	−0·4	7·0	+0·1
3632	597	10·5	23. 32. 41·2	−1·0	6. 18. 0·6	−2·1
	616	10·5	41·8	0·0	3·3	+0·6
	632	10·5	42·4	+1·0	4·1	+1·4
3634	615	9·5	23. 32. 50·4	−0·1	5. 38. 5·8	+0·9
	619	9·5	50·1	−0·7	4·5	−0·4
	629	9·5	51·2	+1·0	4·5	−0·4
3638	606	10·5	23. 35. 3·1	+0·2	4. 7. 39·2	−0·3
	633	10·5	3·0	+0·1	40·2	+0·7
	655	10·5	2·7	−0·2	39·2	−0·3
3643	616	10·5	23. 36. 17·3	+0·3	5. 59. 21·1	+0·5
	619	10·5	15·2	−2·9	19·8	−0·8
	656	10·5	18·7	+2·5	21·0	+0·4
3644	606	10·5	23. 36. 22·6	−0·6	4. 53. 1·1	+0·4
	631	10·5	24·0	+1·2	0·0	−0·7
	656	10·5	22·6	−0·6	1·1	+0·4
3646	615	10·0	23. 37. 4·0	−0·8	5. 43. 49·0	−0·7
	629	9·5	4·9	+0·6	50·3	+0·6
	632	10·0	4·5	0·0	49·8	+0·1
3647	606	9·0	23. 38. 8·7	−0·4	5. 20. 7·0	+0·1
	655	9·0	8·9	−0·1	6·7	−0·2
	664	9·5	9·5	+0·7	7·1	+0·2
3648	597	10·5	23. 38. 8·4	−1·6	5. 3. 9·7	−0·6
	655	10·5	9·6	0·0	11·1	+0·8
	656	10·5	10·9	+1·7	10·2	−0·1
3650	631	10·5	23. 39. 7·2	−0·2	6. 36. 53·3	−0·6
	655	10·5	7·0	−0·5	54·3	+0·4
	669	10·5	7·6	+0·5	54·1	+0·2

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3653	597	10·0	23. 39. 41·5	−1·2	5. 28. 48·4	+0·4
	616	10·0	41·8	−0·7	47·2	−0·8
	656	10·0	43·5	+1·7	48·4	+0·4
3656	606	10·0	23. 40. 51·3	+0·5	6. 45. 5·9	−0·7
	619	10·0	50·3	−1·2	8·0	+1·4
	633	10·0	51·5	+0·9	5·9	−0·7
3661	615	9·0	23. 42. 28·4	−0·9	5. 43. 38·4	+0·7
	632	9·0	29·8	+1·2	36·9	−0·8
	655	9·5	28·9	−0·2	37·9	+0·2
3664	597	10·5	23. 43. 15·4	−1·1	5. 16. 8·9	−0·2
	629	10·5	16·7	+0·7	9·3	+0·2
	633	10·5	16·4	+0·3	9·2	+0·1
3669	606	10·5	23. 43. 50·4	−0·2	6. 43. 28·9	+0·4
	615	10·5	50·2	−0·5	28·5	0·0
	619	10·5	50·9	+0·7	28·2	−0·3
3672	606	10·5	23. 44. 43·5	+0·7	6. 18. 53·6	+1·1
	616	11·0	42·0	−1·8	52·4	−0·1
	631	10·5	43·7	+1·0	51·5	−1·0
3676	606	10·0	23. 46. 51·8	+0·3	6. 38. 41·0	+0·1
	607	10·0	51·4	−0·3	40·7	−0·2
	632	10·0	51·7	+0·2	41·1	+0·2
3677	597	10·5	23. 48. 14·8	−0·3	5. 50. 7·5	−0·1
	619	10·5	15·5	+0·8	7·8	+0·2
	629	10·5	14·6	−0·6	7·5	−0·1
3679	606	10·0	23. 49. 4·0	−0·9	4. 54. 3·3	−0·2
	616	10·0	4·3	−0·5	3·7	+0·2
	631	10·0	5·9	+1·5	3·4	−0·1
3682	597	10·0	23. 50. 7·2	+0·4	6. 59. 50·8	−0·2
	632	10·0	7·5	+0·9	51·2	+0·2
	633	10·0	6·9	−0·2	50·8	−0·2
	655	10·0	6·5	−0·9	51·3	+0·3
3684	615	10·5	23. 50. 39·1	−1·6	6. 14. 21·8	+0·3
	629	10·5	40·5	+0·7	21·3	−0·2
	655	10·0	40·6	+0·8	21·4	−0·1
3687	597	10·5	23. 51. 18·5	−0·5	6. 38. 18·7	−1·6
	607	10·5	18·5	−0·5	20·6	+0·3
	656	10·5	19·4	+1·1	21·6	+1·3
3688	606	10·5	23. 51. 27·2	0·0	4. 52. 39·1	+0·4
	631	10·5	26·9	−0·4	38·1	−0·6
	669	10·5	27·4	+0·3	39·0	+0·3
3691	632	10·5	23. 52. 10·9	−0·2	6. 47. 46·9	−0·4
	655	10·5	11·3	+0·5	47·1	−0·2
	656	10·5	10·7	−0·5	47·8	+0·5
3696	607	10·5	23. 54. 22·1	+0·4	5. 28. 17·9	+0·6
	615	10·5	21·2	−0·9	16·7	−0·6
	669	10·5	22·1	+0·4	17·4	+0·1
3698	606	10·5	23. 54. 33·9	+0·2	6. 55. 34·5	−0·1
	619	10·5	33·8	0·0	35·1	+0·5
	655	10·5	33·7	−0·2	34·2	−0·4
3702	606	10·5	23. 56. 20·0	−0·2	4. 26. 4·3	+1·1
	631	10·5	20·1	−0·1	2·4	−0·8
	656	10·5	20·6	+0·5	2·9	−0·3
3703	616	10·0	23. 56. 36·9	+0·4	5. 33. 27·8	−0·4
	629	10·0	36·5	−0·1	28·6	+0·4
	633	10·0	36·5	−0·1	28·2	0·0
3704	615	10·0	23. 56. 51·2	−0·2	6. 19. 58·8	−1·8
	619	10·0	51·5	+0·3	61·8	+1·2
	669	10·0	51·3	0·0	61·2	+0·6
3710	606	10·5	23. 58. 30·7	−1·4	5. 9. 32·9	−0·3
	655	10·5	32·8	+1·5	33·6	+0·4
	656	10·5	31·5	−0·3	33·1	−0·1
3711	616	10·0	23. 59. 8·8	+0·7	5. 24. 10·1	+0·9
	629	9·5	8·2	−0·1	9·2	0·0
	633	10·0	7·9	−0·6	8·4	−0·8
3713	615	10·5	23. 59. 28·6	+0·8	6. 23. 12·7	+0·4
	632	10·0	27·8	−0·5	11·2	−1·1
	669	10·5	27·8	−0·5	12·9	+0·6
3715	606	10·5	23. 59. 48·4	0·0	6. 12. 10·9	0·0
	655	10·5	48·0	−0·7	11·5	+0·6
	656	10·5	48·7	+0·5	10·3	−0·6
3716	597	10·0	23. 59. 50·9	−1·1	5. 2. 40·1	−1·2
	619	10·5	52·4	+0·9	43·0	+1·7
	656	10·5	51·7	0·0	40·7	−0·6

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
0003	698	10·0	0. 2. 18·6	+0·2	8. 4. 53·1	+0·4	0074	698	10·5	0. 28. 50·4	−0·2	8. 36. 15·5	−0·3
	703	10·0	18·5	0·0	51·8	−0·9		704	10·5	50·7	+0·5	15·7	−0·1
	717	10·0	18·4	−0·2	53·3	+0·6		716	10·5	50·3	−0·5	16·3	+0·5
0004	704	10·0	0. 2. 58·7	+0·8	7. 44. 35·9	+1·0	0076	703	6·0	0. 29. 1·1	+0·7	8. 18. 26·8	−0·2
	716	10·0	58·3	0·0	34·3	−0·6		705	7·0	0·6	−0·4	26·9	−0·1
	718	10·5	58·0	−0·6	34·5	−0·4		718	7·0	0·8	0·0	27·2	+0·2
0005	705	10·5	0. 3. 46·2	+0·9	8. 49. 31·9	+0·8	0083	703	10·0	0. 31. 50·4	+0·2	9. 0. 21·6	0·0
	716	10·5	46·0	+0·5	29·2	−1·9		704	10·0	50·2	−0·2	22·4	+0·8
	976	10·5	45·3	−1·2	32·1	+1·0		718	10·0	50·2	−0·2	20·8	−0·8
0007	704	9·5	0. 4. 3·1	+0·6	7. 36. 42·4	+0·5	0084	698	10·5	0. 32. 13·1	+0·6	7. 29. 44·0	−0·3
	717	9·5	2·7	−0·2	41·1	−0·8		716	10·5	13·1	+0·6	44·6	+0·3
	718	9·5	2·6	−0·4	42·3	+0·4		718	10·5	12·2	−1·2	44·3	0·0
0012	705	10·5	0. 4. 43·7	−0·2	8. 46. 60·3	+0·4	0086	703	10·0	0. 33. 4·2	−0·2	8. 28. 29·1	+0·2
	716	10·5	44·0	+0·5	60·4	+0·5		704	10·0	4·2	−0·2	30·0	+1·1
	976	10·5	43·8	0·0	59·1	−0·8		720	10·0	4·5	+0·4	27·7	−1·2
0016	704	9·5	0. 7. 4·9	0·0	7. 24. 55·2	+0·7	0090	698	10·0	0. 35. 48·1	−0·2	7. 39. 37·8	+0·1
	705	9·5	4·6	−0·6	54·2	−0·3		705	10·0	48·1	−0·2	37·1	−0·6
	717	9·5	5·1	+0·2	54·0	−0·5		717	10·0	48·4	+0·4	38·1	+0·4
0017	704	9·5	0. 7. 22·5	−0·4	7. 26. 8·7	+0·8	0092	698	10·0	0. 36. 42·0	+0·2	8. 21. 51·9	+0·1
	716	9·0	22·7	0·0	8·3	+0·4		705	10·0	42·0	+0·2	51·7	−0·1
	717	9·5	22·9	+0·4	6·8	−1·1		718	10·0	41·6	−0·7	51·7	−0·1
0022	703	9·5	0. 9. 22·3	+0·6	7. 26. 18·6	0·0	0097	703	10·0	0. 37. 45·9	+0·5	8. 49. 55·6	−0·2
	704	9·0	21·9	−0·2	19·3	+0·7		704	10·0	45·4	−0·7	56·0	+0·2
	717	9·0	21·8	−0·4	18·0	−0·6		717	10·0	45·8	+0·2	55·9	+0·1
0024	705	10·0	0. 11. 22·8	+0·2	8. 59. 58·5	−0·7	0098	698	8·5	0. 38. 28·4	+0·7	8. 49. 29·2	0·0
	718	10·0	22·4	−0·7	58·0	−1·2		703	8·5	28·1	0·0	29·5	+0·3
	728	10·0	22·8	+0·2	61·0	+1·8		717	8·0	27·9	−0·5	29·0	−0·2
0026	703	10·5	0. 11. 48·4	+0·8	7. 46. 33·5	+0·6	0103	703	10·5	0. 39. 53·3	−0·6	7. 33. 45·7	−0·1
	717	10·5	47·5	−1·0	32·1	−0·8		705	10·5	53·9	+0·6	46·1	+0·3
	977	10·5	48·2	+0·4	33·1	+0·2		718	10·5	53·6	0·0	45·5	−0·3
0028	703	10·5	0. 13. 42·5	+0·4	7. 39. 30·3	+0·3	0105	704	10·0	0. 41. 16·7	−0·5	9. 2. 52·4	+0·3
	717	10·5	41·9	−0·8	30·2	+0·2		716	10·0	16·8	−0·2	52·4	+0·3
	977	10·5	42·5	+0·4	29·5	−0·5		728	10·0	17·1	+0·5	51·4	−0·7
0029	704	10·5	0. 14. 0·6	−0·6	7. 59. 15·7	+0·6	0107	705	10·0	0. 41. 26·7	+0·4	7. 40. 34·2	+0·5
	718	10·5	0·9	0·0	15·6	+0·5		718	10·0	26·7	+0·4	34·2	+0·5
	720	10·5	1·3	+0·9	14·0	−1·1		978	10·0	26·0	−1·0	32·7	−1·0
0033	717	10·5	0. 15. 0·3	−0·9	7. 11. 6·0	−0·9	0108	704	10·0	0. 41. 33·6	−0·2	8. 0. 12·1	+0·1
	718	10·5	0·7	−0·2	7·7	+0·8		728	10·0	34·8	+2·3	12·9	+0·9
	978	10·5	1·3	+0·9	7·1	+0·2		977	9·5	32·7	−2·1	11·0	−1·0
0036	704	10·0	0. 16. 10·0	−1·0	7. 56. 36·5	+1·2	0109	698	7·0	0. 41. 37·0	−0·4	7. 4. 52·2	+0·5
	720	10·0	11·3	+1·7	35·2	−0·1		720	7·0	37·0	−0·4	51·1	−0·6
	976	10·0	10·2	−0·6	34·3	−1·0		975	7·0	37·7	+0·9	51·9	+0·2
0038	718	10·0	0. 16. 44·8	−1·4	8. 48. 26·1	+0·9	0110	717	10·5	0. 41. 54·4	+0·6	8. 1. 55·6	+0·1
	975	10·5	47·1	+3·7	25·5	+0·3		977	10·5	53·8	−0·6	55·5	0·0
	977	10·0	45·2	−0·5	24·1	−1·1		978	10·5	54·2	+0·2	55·4	−0·1
0039	703	10·0	0. 16. 49·9	0·0	7. 49. 59·0	+0·4	0111	717	10·0	0. 42. 4·0	−0·7	8. 52. 29·2	+0·4
	728	10·5	50·0	+0·2	59·0	+0·4		976	10·0	4·8	+1·2	28·7	−0·1
	989	10·0	49·8	−0·2	57·7	−0·9		989	9·5	4·2	−0·2	28·4	−0·4
0040	716	10·0	0. 16. 53·6	+0·7	8. 34. 48·0	−0·3	0115	703	10·0	0. 43. 53·1	−0·6	7. 4. 45·9	+0·1
	977	10·0	53·1	−0·5	47·8	−0·5		718	10·0	53·5	+0·2	47·0	+1·2
	978	10·5	53·3	0·0	49·2	+0·9		720	10·0	53·6	+0·4	44·6	−1·2
0042	703	10·0	0. 17. 34·2	−0·6	8. 6. 17·7	−0·1	0116	704	9·5	0. 44. 45·5	−0·6	8. 6. 3·5	−0·6
	976	10·0	35·3	+1·7	18·5	+0·7		716	9·0	45·2	−1·3	4·0	−0·1
	978	10·5	34·0	−1·1	17·1	−0·7		719	9·5	46·6	+1·7	4·7	+0·6
0045	705	10·5	0. 19. 27·2	0·0	8. 55. 19·0	+0·4	0118	703	10·0	0. 45. 46·3	+0·2	7. 6. 11·3	+0·2
	717	10·0	27·2	0·0	18·3	−0·3		716	10·0	46·3	+0·2	10·9	−0·2
	718	10·0	27·3	+0·2	18·6	0·0		718	10·0	46·1	−0·2	11·1	0·0
0047	698	10·0	0. 19. 41·0	+0·2	8. 7. 44·7	+1·1	0119	705	10·0	0. 45. 58·1	−1·0	7. 40. 45·8	+0·3
	716	10·0	40·4	−1·1	43·3	−0·3		717	9·0	58·4	−0·4	45·9	+0·4
	720	10·5	41·4	+1·1	42·7	−0·9		728	10·0	59·3	+1·4	44·8	−0·7
0049	703	10·0	0. 21. 18·3	−0·4	8. 12. 22·9	−0·2	0120	704	10·0	0. 46. 21·1	−0·4	7. 59. 46·0	+0·2
	716	10·0	18·9	+0·9	22·8	−0·3		705	10·0	21·5	+0·4	47·6	+1·8
	717	10·5	18·2	−0·6	23·5	+0·4		720	10·0	21·3	0·0	43·7	−2·1
0050	703	10·0	0. 21. 54·6	0·0	7. 53. 19·8	+0·2	0123	703	10·5	0. 48. 9·7	+0·7	9. 5. 17·4	−1·1
	705	10·5	54·5	−0·2	19·5	−0·1		716	10·5	8·9	−1·2	18·8	+0·3
	718	10·0	54·7	+0·2	19·6	0·0		976	10·5	9·6	+0·5	19·2	+0·7
0058	705	10·5	0. 23. 45·1	+0·8	7. 16. 29·9	−0·4	0126	705	10·5	0. 48. 52·4	−1·2	7. 38. 62·3	+0·9
	717	10·5	44·7	0·0	31·2	+0·9		718	10·5	53·0	0·0	62·0	+0·6
	718	10·5	44·4	−0·6	29·7	−0·6		977	10·0	53·5	+1·0	59·8	−1·6
0059	698	10·0	0. 23. 45·8	0·0	9. 1. 47·8	+1·1	0128	704	10·5	0. 49. 5·5	−0·7	8. 10. 9·7	+1·4
	716	10·0	46·0	+0·5	47·2	+0·5		717	10·5	5·8	0·0	6·2	−2·1
	720	10·5	45·5	−0·7	45·0	−1·7		975	10·5	6·2	+0·9	9·0	+0·7
0060	703	9·5	0. 24. 34·8	+0·4	7. 10. 8·0	+0·5	0130	717	8·0	0. 49. 38·4	−1·2	8. 54. 26·8	−0·2
	705	9·0	33·8	−1·5	7·1	−0·4		719	8·0	39·3	+1·0	28·2	+1·2
	975	9·0	35·3	+1·3	7·4	−0·1		728	9·0	39·0	+0·2	26·1	−0·9
0061	698	10·0	0. 25. 17·0	+0·8	7. 42. 24·6	+0·4	0132	703	10·5	0. 49. 52·9	+0·2	9. 3. 42·2	−0·6
	717	9·5	16·5	−0·2	23·9	−0·3		716	10·5	53·3	+1·0	43·5	+0·7
	728	10·0	16·2	−0·8	24·1	−0·1		976	10·5	52·2	−1·2	42·6	−0·2
0066	698	10·5	0. 26. 39·1	+0·7	8. 40. 12·2	−1·4	0136	717	9·5	0. 50. 55·9	−0·9	8. 40. 43·6	−0·1
	703	10·5	38·6	−0·5	14·2	+0·6		719	9·5	56·4	+0·2	44·4	+0·7
	716	10·5	38·8	0·0	14·5	+0·9		975	9·5	56·5	+0·5	43·0	−0·7

The numbers in Column 'Day' are reckoned from 1854, Jan. 1. An asterisk following the Day-number indicates that the star was observed at its inferior transit.

The magnitudes here given are the uncorrected estimations made during the meridian observations.

0017 on 717. 10ˢ have been added to the observed R.A.

0038 on 975. Half weight has been given to the R.A. 0118. S.p. star of a Double.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
0138	698	10·0	0. 51. 6·8	0·0	8. 14. 16·3	+0·1	0208	698	10·0	1. 20. 49·6	+0·2	8. 30. 0·6	0·0
	704	10·0	6·7	−0·2	16·3	+0·1		716	10·0	49·3	−0·4	0·5	−0·1
	720	10·0	6·8	0·0	15·9	−0·3		718	10·0	49·5	0·0	0·7	+0·1
0139	698	10·5	0. 51. 32·0	+1·6	7. 31. 32·0	−0·3	0210	696	10·5	1. 22. 2·8	−0·7	8. 19. 12·5	+0·9
	718	10·5	30·4	−1·6	32·9	+0·6		717	10·5	3·2	+0·2	12·0	+0·4
	976	10·5	31·1	−0·2	32·1	−0·2		739	10·5	3·2	+0·2	10·3	−1·3
0141	705	9·5	0. 51. 34·8	+0·5	8. 31. 56·9	+0·3	0212	703	10·5	1. 22. 57·5	+0·2	8. 43. 22·0	+0·2
	716	9·0	34·4	−0·5	56·1	−0·5		718	10·5	57·0	−0·9	22·3	+0·5
	977	9·5	34·6	0·0	56·7	+0·1		742	10·5	57·8	+0·9	21·2	−0·6
0144	703	9·0	0. 52. 29·1	−0·7	8. 49. 8·1	−0·6	0213	703	10·5	1. 22. 58·7	−0·5	8. 49. 49·1	−0·9
	719	9·0	29·8	+0·9	9·4	+0·7		719	10·0	59·2	+0·7	51·4	+1·4
	976	9·0	29·3	−0·2	8·6	−0·1		728	10·5	58·7	−0·5	49·6	−0·4
0146	696	10·0	0. 52. 55·2	+0·2	8. 21. 51·4	+0·8	0219	717	10·0	1. 25. 11·1	+0·9	8. 40. 2·5	0·0
	728	10·5	55·5	+0·9	48·9	−1·7		718	10·0	10·0	−1·6	3·0	+0·5
	975	10·5	54·6	−1·1	51·6	+1·0		739	10·0	10·9	+0·5	2·0	−0·5
0147	704	10·5	0. 54. 9·1	+0·6	7. 21. 58·8	0·0	0220	717	10·5	1. 25. 27·0	+1·4	8. 40. 8·7	+0·3
	705	10·5	8·5	−0·6	59·4	+0·6		718	10·5	26·3	−0·2	8·4	0·0
	717	10·5	8·9	+0·2	58·3	−0·5		739	10·5	25·9	−1·1	8·0	−0·4
0148	698	10·0	0. 54. 10·1	−0·6	7. 17. 1·8	−0·6	0222	703	10·0	1. 26. 8·3	−0·5	9. 3. 14·4	0·0
	716	10·0	10·6	+0·4	2·0	−0·4		719	10·0	8·8	+0·7	15·5	+1·1
	718	10·0	10·4	0·0	3·4	+1·0		720	10·0	8·4	−0·2	13·4	−1·0
0150	696	10·0	0. 55. 9·5	−0·2	8. 28. 33·1	+0·3	0223	716	10·5	1. 26. 23·8	−0·9	8. 57. 14·7	+0·6
	703	10·0	9·7	+0·2	31·5	−1·3		728	10·5	25·1	+2·1	13·2	−0·9
	705	10·0	9·6	0·0	33·9	+1·1		742	10·5	23·8	−0·9	14·4	+0·3
0155	696	9·5	0. 56. 56·3	−0·2	7. 19. 6·2	−0·3	0229	703	10·0	1. 28. 56·9	+0·9	8. 15. 13·8	−0·1
	698	9·5	56·3	−0·2	6·6	+0·1		717	9·5	56·5	0·0	13·4	−0·5
	704	10·0	56·6	+0·4	6·7	+0·2		718	10·0	56·1	−0·9	14·4	+0·5
0159	698	10·5	0. 59. 9·5	+1·4	8. 37. 8·3	+2·4	0232	703	10·5	1. 30. 18·3	+0·5	8. 50. 17·5	−1·2
	716	11·0	8·4	−1·1	4·2	−1·7		716	10·5	17·6	−1·2	18·2	−0·5
	717	11·0	8·9	0·0	5·2	−0·7		719	10·5	18·5	+0·9	20·3	+1·8
0161	696	9·5	0. 59. 25·1	+0·5	8. 59. 38·1	+0·4	0234	716	10·0	1. 31. 12·5	+0·2	8. 28. 34·2	+0·2
	703	9·5	24·9	0·0	37·2	−0·5		718	10·0	12·0	−0·9	35·1	+1·1
	704	9·5	24·7	−0·5	37·9	+0·2		720	9·5	12·7	+0·7	32·6	−1·4
0163	705	10·5	1. 0. 21·6	+0·5	8. 47. 31·4	−0·3	0237	743	10·5	1. 31. 47·1	−0·7	8. 20. 20·6	+0·7
	717	10·5	21·3	−0·2	30·9	−0·8		744	10·5	48·0	+1·3	21·7	+1·8
	718	10·5	21·3	−0·2	32·7	+1·0		989	10·5	47·1	−0·7	17·5	−2·4
0165	696	10·5	1. 0. 41·2	−0·5	8. 51. 63·6	+1·8	0238	717	10·0	1. 32. 3·0	−0·8	7. 38. 36·2	+0·2
	711	10·5	42·0	+1·4	59·8	−2·0		718	10·5	3·1	−0·6	38·2	+2·2
	718	10·5	41·0	−0·9	62·1	+0·3		728	10·0	4·2	+1·6	33·7	−2·3
0175	696	10·5	1. 4. 25·3	−1·6	8. 38. 43·7	+1·3	0240	717	10·0	1. 32. 49·4	−0·8	7. 7. 29·3	−0·3
	717	11·0	26·1	+0·2	41·7	−0·7		719	10·0	50·2	+0·8	30·1	+0·5
	718	10·5	26·6	+1·4	41·7	−0·7		739	10·0	49·8	0·0	29·4	−0·2
0180	696	10·0	1. 6. 22·7	+0·7	9. 2. 24·8	−0·1	0244	718	10·0	1. 33. 18·9	−0·8	8. 2. 26·4	+0·1
	698	10·0	22·2	−0·5	25·7	+0·8		719	10·0	20·2	+1·9	26·0	−0·3
	717	9·5	22·4	0·0	24·3	−0·6		742	10·0	18·7	−1·3	26·4	+0·1
0184	698	10·0	1. 7. 26·6	−0·8	7. 33. 35·3	−0·6	0245	703	10·0	1. 33. 29·4	0·0	8. 55. 0·7	−0·5
	718	10·0	26·5	−1·0	35·4	−0·5		728	10·0	29·4	0·0	0·6	−0·6
	719	10·0	27·8	+1·6	37·0	+1·1		739	10·0	29·3	−0·2	2·2	+1·0
0187	696	10·0	1. 9. 2·6	+0·8	7. 56. 14·2	+0·5	0246	716	10·0	1. 34. 21·5	−0·6	8. 8. 48·9	+0·5
	717	10·0	1·8	−0·8	12·5	−1·2		719	10·0	22·0	+0·4	49·3	+0·9
	718	10·0	2·1	−0·2	14·5	+0·8		743	10·0	21·9	+0·2	47·1	−1·3
0188	698	10·5	1. 9. 58·7	−0·6	7. 58. 55·5	+0·4	0248	717	9·0	1. 34. 40·8	+0·6	7. 42. 20·2	−0·3
	717	11·0	58·3	−1·5	54·5	−0·6		720	9·5	40·8	+0·6	20·3	−0·2
	742	11·0	60·1	+2·3	55·4	+0·3		742	9·5	39·8	−1·4	21·1	+0·6
0189	696	9·5	1. 10. 35·7	−0·4	8. 1. 46·6	−0·1	0250	703	10·5	1. 35. 25·8	+0·7	8. 46. 60·2	+0·9
	718	9·5	35·4	−1·1	46·8	+0·1		718	10·5	25·1	−0·9	60·4	+1·1
	719	10·0	36·5	+1·3	46·7	0·0		739	10·5	25·6	+0·2	57·4	−1·9
0193	703	10·5	1. 13. 28·4	−0·7	7. 4. 13·2	−1·0	0253	711	10·5	1. 36. 44·7	+0·7	8. 26. 55·0	−0·2
	717	10·5	29·3	+0·9	14·7	+0·5		716	10·5	44·1	−0·7	54·9	−0·3
	718	10·5	28·7	−0·2	14·6	+0·4		743	10·5	44·3	−0·2	55·6	+0·4
0194	696	10·0	1. 13. 36·0	−0·2	7. 46. 5·3	−0·1	0256	711	9·0	1. 38. 23·8	+0·2	8. 45. 41·5	+0·2
	698	10·0	36·0	−0·2	5·2	−0·2		716	8·0	23·5	−0·5	40·5	−0·8
	719	10·0	36·4	+0·6	5·8	+0·4		718	8·0	23·9	+0·5	41·9	+0·6
0200	696	10·0	1. 17. 32·2	−0·2	8. 21. 23·7	−0·8	0258	705	10·0	1. 38. 33·8	−0·4	8. 4. 54·4	−0·2
	717	10·0	31·7	−1·3	23·8	−0·7		719	9·5	34·0	0·0	55·3	+0·7
	719	10·0	33·0	+1·5	26·1	+1·6		739	10·0	34·3	+0·6	54·2	−0·4
0202	711	10·0	1. 17. 55·6	+0·6	7. 54. 27·6	+0·6	0266	705	10·0	1. 40. 45·6	+1·3	8. 15. 54·5	+0·2
	717	10·0	55·1	−0·4	26·0	−1·0		711	10·5	44·8	−0·4	53·9	−0·4
	720	10·0	55·3	0·0	27·3	+0·3		718	10·0	44·7	−0·7	54·6	+0·3
0203	698	9·5	1. 18. 1·3	−0·6	7. 23. 47·5	−0·3	0272	711	10·0	1. 44. 2·6	−0·2	8. 55. 32·3	−0·3
	718	9·5	1·6	0·0	48·1	+0·3		716	10·0	2·8	+0·2	31·9	−0·7
	739	9·5	1·8	+0·4	47·8	0·0		718	10·0	2·6	−0·2	33·6	+1·0
0204	698	—	1. 18. —	—	7. 23. —	—	0273	705	10·0	1. 44. 31·5	0·0	8. 19. 36·2	+0·2
	718	10·5	6·6	0·0	43·1	−0·4		716	10·5	31·3	−0·4	36·6	+0·6
	739	10·5	6·5	−0·2	43·8	+0·3		728	10·0	31·8	+0·7	35·1	−0·9
0205	696	9·0	1. 18. 16·8	+0·2	7. 57. 30·5	+0·4	0274	704	9·0	1. 44. 53·2	+0·2	8. 9. 26·7	+0·2
	698	9·0	16·2	−1·1	30·3	+0·2		705	9·0	52·8	−0·6	26·8	+0·3
	728	9·0	17·2	+1·1	29·4	−0·7		728	9·5	53·2	+0·2	26·0	−0·5
0207	703	9·5	1. 18. 59·6	+0·5	8. 50. 40·3	−0·1	0276	711	10·0	1. 45. 45·4	0·0	7. 51. 49·2	−0·9
	716	9·5	59·3	−0·2	39·6	−0·8		718	10·5	45·1	−0·6	49·8	−0·3
	742	10·0	59·2	−0·5	41·4	+1·0		719	10·0	45·6	+0·4	51·4	+1·3

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
0277	705	10·0	1. 46. 22·5	0·0	8. 14. 31·7	+0·4	0349	703	10·5	2. 19. 8·7	−0·9	8. 23. 3·2	−0·5
	716	10·0	22·1	−0·9	30·8	−0·5		719	10·5	9·4	+0·7	5·0	+1·3
	739	10·0	22·9	+0·9	31·5	+0·2		742	10·0	9·3	+0·4	2·9	−0·8
0280	704	10·0	1. 47. 27·7	−0·2	8. 22. 42·9	+0·1	0351	698	10·5	2. 19. 25·3	+0·2	8. 39. 44·6	−0·5
	718	10·0	27·8	0·0	42·8	0·0		711	10·5	25·5	+0·7	45·0	−0·1
	742	10·0	27·8	0·0	42·8	0·0		717	10·5	24·8	−0·9	45·6	+0·5
0282	705	10·0	1. 48. 54·5	+0·2	9. 4. 32·6	+0·3	0355	698	10·5	2. 21. 1·2	0·0	8. 41. 54·0	−0·3
	716	10·0	54·3	−0·2	31·1	−1·2		711	10·0	1·3	+0·2	54·6	+0·3
	719	10·0	54·4	0·0	33·1	+0·8		717	10·5	1·1	−0·2	54·4	+0·1
0285	704	10·5	1. 51. 10·3	+1·1	7. 7. 57·6	−0·4	0358	693	10·0	2. 22. 21·4	−0·9	8. 18. 17·0	+0·3
	718	10·5	8·8	−1·7	58·0	0·0		704	10·0	21·6	−0·4	16·6	−0·1
	742	10·5	10·1	+0·8	58·3	+0·3		719	10·0	22·4	+1·3	16·4	−0·3
0286	705	10·0	1. 51. 21·9	0·0	7. 14. 53·8	−0·3	0359	703	10·0	2. 23. 8·9	+0·6	7. 47. 38·5	−1·4
	718	10·0	21·9	0·0	54·3	+0·2		716	10·0	8·5	−0·2	40·0	+0·1
	719	10·0	22·0	+0·2	54·1	0·0		742	10·0	8·3	−0·6	41·2	+1·3
0287	716	10·0	1. 51. 51·5	−1·8	7. 39. 34·8	+0·2	0360	703	10·5	2. 23. 12·6	+1·0	7. 48. 41·2	+0·9
	719	10·5	52·3	−0·2	35·6	+1·0		716	10·5	11·5	−1·2	40·0	−0·3
	728	10·5	53·3	+1·8	33·3	−1·3		742	11·0	12·1	0·0	39·6	−0·7
0295	704	10·5	1. 53. 46·7	0·0	8. 29. 9·3	−0·4	0365	698	10·0	2. 24. 46·3	−0·5	8. 57. 16·6	+0·7
	716	10·5	46·6	−0·2	9·5	−0·2		704	9·5	46·5	0·0	15·8	−0·1
	742	10·5	46·8	+0·2	10·4	+0·7		711	9·5	46·8	+0·7	15·3	−0·6
0299	693	8·5	1. 55. 4·5	−0·4	7. 7. 33·0	+0·6	0366	698	10·0	2. 25. 14·5	+0·5	8. 58. 14·6	+0·6
	719	8·0	4·8	+0·2	32·4	0·0		704	10·0	14·0	−0·7	13·6	−0·4
	725	8·0	4·8	+0·2	31·9	−0·5		711	10·0	14·4	+0·2	13·9	−0·1
0301	704	10·5	1. 56. 20·6	−0·2	8. 9. 53·0	−0·2	0367	711	9·0	2. 26. 32·0	+0·9	8. 45. 27·6	+0·1
	719	10·5	21·1	+0·9	54·4	+1·2		717	9·0	31·2	−0·9	27·2	−0·3
	728	10·5	20·4	−0·6	52·1	−1·1		718	9·0	31·6	0·0	27·7	+0·2
0308	693	10·5	1. 59. 42·6	+0·9	8. 53. 9·5	−0·5	0368	698	10·5	2. 27. 5·7	+0·4	7. 23. 33·2	+0·7
	705	10·5	42·1	−0·2	10·1	+0·1		716	10·5	5·1	−0·8	32·2	−0·3
	719	10·5	41·9	−0·7	10·5	+0·5		719	10·5	5·8	+0·6	32·1	−0·4
0310	704	10·0	2. 0. 33·7	−1·0	7. 32. 5·8	+1·1	0370	716	10·0	2. 28. 24·1	−1·1	7. 6. 17·3	+0·2
	719	10·0	34·4	+0·4	4·4	−0·3		718	10·0	24·6	−0·2	18·0	+0·9
	725	10·0	34·4	+0·4	3·9	−0·8		728	10·0	25·3	+1·1	16·0	−1·1
0317	693	10·0	2. 3. 27·7	+1·4	8. 53. 12·8	−1·0	0372	717	10·5	2. 28. 55·8	−2·4	8. 58. 27·7	−0·3
	705	10·5	26·8	−0·7	13·9	+0·1		719	10·5	57·5	+1·7	28·5	+0·5
	719	10·0	26·8	−0·7	14·8	+1·0		743	10·5	57·2	+0·9	27·9	−0·1
0319	693	10·5	2. 6. 38·7	0·0	8. 28. 60·4	−0·6	0373	704	10·0	2. 29. 16·6	−0·5	8. 38. 30·4	0·0
	704	10·5	38·5	−0·4	59·9	−1·1		718	10·0	16·8	0·0	30·6	+0·2
	719	10·5	38·9	+0·4	62·6	+1·6		742	10·0	17·0	+0·5	30·3	−0·1
0320	693	10·0	2. 8. 46·0	−1·5	8. 17. 23·4	+0·6	0379	711	10·0	2. 31. 51·5	+0·6	7. 44. 6·4	−0·2
	719	10·0	46·6	−0·2	23·0	+0·2		718	10·0	51·0	−0·4	7·8	+1·2
	728	10·0	47·5	+1·7	22·1	−0·7		728	10·0	51·0	−0·4	5·6	−1·0
0322	704	10·0	2. 9. 25·2	−0·5	8. 44. 5·2	+0·4	0380	698	10·5	2. 32. 0·4	−0·8	7. 15. 37·7	+1·2
	719	10·0	25·2	−0·5	4·5	−0·3		717	10·5	0·5	−0·6	35·2	−1·3
	742	10·0	25·7	+0·7	4·7	−0·1		744	10·5	1·4	+1·2	36·7	+0·2
0323	705	10·0	2. 9. 40·5	−1·1	8. 32. 41·1	+0·4	0381	704	10·5	2. 32. 2·5	−1·2	7. 53. 18·8	+0·3
	720	10·0	41·5	+1·1	39·0	−1·7		716	10·5	2·5	−1·2	18·7	+0·2
	728	10·5	41·1	+0·2	42·1	+1·4		743	10·5	4·2	+2·3	18·1	−0·4
0324	705	10·0	2. 9. 45·6	−0·6	7. 27. 57·1	+1·5	0384	703	10·0	2. 32. 30·7	−1·2	8. 43. 17·6	+0·4
	725	10·0	46·2	+0·6	54·5	−1·1		742	10·0	31·4	+0·5	16·7	−0·5
	743	10·0	46·0	+0·2	55·3	−0·3		754	10·0	31·5	+0·7	17·3	+0·1
0327	704	10·5	2. 11. 3·2	−0·5	9. 5. 26·0	−0·9	0385	705	10·5	2. 32. 34·9	−1·4	7. 28. 59·3	+0·3
	717	10·5	3·2	−0·5	27·0	+0·1		742	10·5	36·2	+1·2	58·5	−0·5
	742	10·5	3·8	+1·0	27·6	+0·7		754	10·5	35·7	+0·2	59·2	+0·2
0330	693	10·0	2. 13. 5·8	−0·4	8. 18. 37·4	+0·4	0386	716	10·5	2. 32. 48·3	−0·6	8. 0. 39·6	−1·1
	719	10·0	6·2	+0·4	36·9	−0·1		719	10·5	48·5	−0·2	43·0	+2·3
	725	10·0	6·0	0·0	36·8	−0·2		743	10·5	49·0	+0·8	39·5	−1·2
0333	705	9·0	2. 13. 33·4	+0·8	7. 38. 38·9	+1·5	0387	718	9·0	2. 32. 53·5	−0·9	8. 12. 32·7	+0·2
	717	9·5	32·8	−0·4	38·1	+0·7		719	9·5	54·1	+0·4	33·5	+1·0
	743	9·5	32·8	−0·4	35·3	−2·1		755	9·0	54·1	+0·4	31·3	−1·2
0336	705	10·0	2. 13. 51·1	+0·4	7. 20. 1·9	+0·8	0389	698	10·5	2. 33. 25·7	+0·2	7. 18. 39·8	−0·1
	711	10·0	51·0	+0·2	0·6	−0·5		717	10·5	25·2	−0·8	40·3	+0·4
	743	10·0	50·5	−0·8	0·8	−0·3		744	10·5	25·8	+0·4	39·5	−0·4
0338	698	10·0	2. 14. 40·8	+0·2	8. 32. 39·2	+0·2	0390	704	10·0	2. 34. 19·9	−0·4	7. 46. 9·2	0·0
	717	10·0	40·3	−0·9	38·4	−0·6		711	10·0	20·6	+1·0	10·2	+1·0
	742	10·0	41·0	+0·7	39·5	+0·5		728	10·0	19·7	−0·8	8·3	−0·9
0339	704	10·0	2. 14. 42·2	−0·8	7. 15. 22·1	−0·6	0392	703	9·5	2. 34. 44·1	−0·2	8. 45. 39·3	−0·1
	711	10·0	42·7	+0·2	22·8	+0·1		705	9·0	44·2	0·0	40·2	+0·8
	719	10·5	43·0	+0·4	23·3	+0·6		716	9·5	44·3	+0·2	38·6	−0·8
0340	693	10·0	2. 14. 59·4	−0·5	8. 50. 25·1	+0·5	0396	704	10·0	2. 36. 2·8	−0·2	7. 26. 24·5	−0·1
	719	10·0	59·7	+0·2	25·0	+0·4		705	10·0	3·3	+0·8	25·3	+0·7
	725	10·0	59·7	+0·2	23·7	−0·9		717	9·5	2·6	−0·6	24·1	−0·5
0344	704	10·0	2. 16. 34·5	−1·0	7. 52. 27·8	+0·3	0401	698	10·0	2. 38. 35·8	−0·2	8. 31. 11·0	+0·9
	711	10·0	35·0	0·0	27·5	0·0		703	10·0	36·3	+0·9	9·3	−0·8
	728	10·0	35·4	+0·8	27·3	−0·2		716	10·0	35·6	−0·7	10·1	0·0
0346	698	9·0	2. 17. 4·1	0·0	9. 0. 12·1	+0·4	0408	698	10·0	2. 42. 20·0	−0·2	8. 28. 44·3	−0·3
	717	9·0	4·0	−0·2	12·0	+0·3		716	10·0	19·8	−0·7	43·9	−0·7
	725	9·5	4·2	+0·2	11·1	−0·6		719	10·0	20·6	+1·1	45·7	+1·1
0348	693	10·0	2. 18. 40·1	+0·5	8. 48. 42·3	−0·1	0410	703	10·5	2. 42. 45·9	+0·4	7. 55. 43·0	−1·0
	704	10·0	40·3	+0·9	41·7	−0·7		705	10·5	45·8	+0·2	43·9	−0·1
	719	10·0	39·4	−1·2	43·2	+0·8		718	10·5	45·5	−0·4	45·0	+1·0

0308 on 705. Third star of four.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0413	703	10·5	2. 43. 33·2	+0·6	7. 54. 34·0	−2·0
	705	10·5	33·1	+0·4	36·6	+0·6
	718	10·5	32·5	−0·8	37·4	+1·4
0417	716	10·0	2. 45. 55·5	−0·4	7. 18. 29·7	+0·6
	717	10·0	55·7	0·0	28·9	−0·2
	743	10·0	55·8	+0·2	28·8	−0·3
0418	739	10·5	2. 46. 22·2	+0·6	7. 28. 31·4	−0·8
	742	10·5	21·5	−0·8	33·9	+1·7
	743	10·5	21·9	0·0	31·3	−0·9
0423	725	8·0	2. 46. 51·5	+0·6	7. 40. 5·9	+0·5
	728	9·0	50·5	−1·4	5·1	−0·3
	739	9·0	51·5	+0·6	5·2	−0·2
0429	725	6·0	2. 49. 34·0	−0·7	9. 5. 54·6	−0·2
	728	8·0	34·8	+1·2	55·0	+0·2
	744	7·0	34·0	−0·7	54·8	0·0
0430	739	10·5	2. 50. 15·0	+0·2	8. 7. 25·2	+0·9
	742	10·5	14·7	−0·4	23·4	−0·9
	743	10·5	14·9	0·0	24·4	+0·1
0437	716	10·0	2. 52. 33·8	−0·8	7. 28. 59·1	−0·8
	739	10·0	34·1	−0·2	61·2	+1·3
	743	10·5	34·8	+1·2	59·4	−0·5
0438	716	10·0	2. 52. 44·5	+1·0	7. 23. 22·9	+0·2
	718	10·0	43·4	−1·2	23·1	+0·4
	743	10·0	44·1	+0·2	22·0	−0·7
0440	718	10·0	2. 53. 35·1	0·0	8. 40. 6·8	−0·5
	719	10·0	34·7	−0·9	8·3	+1·0
	744	10·0	35·6	+1·1	6·9	−0·4
0442	705	10·0	2. 54. 18·4	+0·2	7. 54. 56·7	+0·3
	742	10·0	17·7	−1·3	56·8	+0·4
	744	10·0	18·7	+0·8	55·7	−0·7
0443	717	10·0	2. 54. 57·7	−0·4	8. 27. 26·4	−0·5
	718	10·0	57·7	−0·4	27·5	+0·6
	742	10·0	58·2	+0·7	26·8	−0·1
0444	716	10·5	2. 55. 11·5	−0·8	8. 2. 24·6	+0·1
	739	10·5	11·6	−0·6	25·1	+0·6
	743	10·5	12·5	+1·3	23·8	−0·7
0445	703	10·0	2. 56. 11·1	+0·4	7. 16. 23·7	−0·1
	705	9·5	10·9	0·0	24·2	+0·4
	739	10·0	10·8	−0·2	23·4	−0·4
0446	704	10·5	2. 57. 18·3	−0·2	8. 9. 34·2	+0·2
	717	10·5	18·0	−0·9	33·8	−0·2
	744	10·5	18·8	+0·9	33·9	−0·1
0450	703	10·5	2. 58. 44·6	−1·4	9. 2. 54·7	−0·1
	717	10·5	45·4	+0·5	54·9	+0·1
	739	10·5	45·6	+1·0	54·7	−0·1
0453	703	8·0	2. 59. 17·4	0·0	8. 23. 29·8	+0·5
	704	8·0	17·2	−0·4	29·0	−0·3
	743	9·0	17·5	+0·7	29·1	−0·2
0455	705	10·5	2. 59. 36·6	+0·4	7. 50. 24·2	+0·6
	716	10·5	36·1	−0·6	23·2	−0·4
	742	10·5	36·6	+0·4	23·3	−0·3
0459	703	10·0	3. 3. 20·1	+0·2	7. 49. 6·5	+0·3
	705	10·0	19·9	−0·2	6·4	+0·2
	739	10·0	20·1	+0·2	5·8	−0·4
0460	704	10·0	3. 3. 36·5	0·0	8. 33. 42·8	0·0
	705	10·0	36·5	0·0	43·2	+0·4
	717	10·0	36·4	−0·2	42·5	−0·3
0461	704	10·5	3. 4. 52·8	+0·6	7. 37. 17·2	+0·7
	717	10·5	52·0	−1·0	15·7	−0·8
	739	10·5	52·7	+0·4	16·6	+0·1
0465	716	10·5	3. 7. 1·2	0·0	7. 11. 35·1	+0·8
	718	10·5	1·3	+0·2	34·3	0·0
	739	10·5	1·1	−0·2	33·6	−0·7
0467	705	10·5	3. 7. 26·4	−0·2	7. 43. 19·6	+0·3
	718	10·5	26·2	−0·6	19·7	+0·4
	743	10·5	26·9	+0·8	18·5	−0·8
0469	716	10·0	3. 8. 31·4	−0·7	8. 32. 32·0	−0·2
	717	10·0	31·6	−0·2	32·1	−0·1
	742	10·0	32·0	+0·7	32·6	+0·4
0470	704	10·5	3. 8. 53·1	+0·9	8. 29. 13·1	+0·1
	718	10·0	52·5	−0·4	13·7	+0·7
	743	10·5	52·4	−0·7	12·2	−0·8
0472	703	10·0	3. 9. 23·6	0·0	8. 47. 25·1	−1·1
	739	10·5	24·0	+0·9	27·5	+1·3
	743	10·0	23·2	−0·9	25·9	−0·3
0474	703	9·0	3. 10. 59·4	0·0	8. 42. 54·9	−0·5
	739	9·0	59·4	0·0	55·8	+0·4
	741	9·0	59·3	−0·2	55·5	+0·1
0477	704	9·5	3. 11. 60·0	+0·2	7. 6. 7·5	+0·6
	717	9·5	59·7	−0·4	7·1	+0·2
	742	9·5	60·1	+0·4	6·1	−0·8
0478	716	10·5	3. 12. 31·9	−0·4	8. 19. 9·5	−0·3
	718	10·5	32·2	+0·2	10·5	+0·7
	744	10·5	32·1	0·0	9·5	−0·3
0479	717	10·0	3. 12. 53·9	0·0	8. 57. 59·1	−0·3
	739	10·0	53·9	0·0	60·0	+0·6
	743	10·0	54·0	+0·2	59·0	−0·4
0480	716	9·5	3. 13. 28·6	−0·7	8. 24. 8·5	−0·3
	741	9·5	29·7	+1·8	9·4	+0·6
	755	9·5	28·4	−1·1	8·6	−0·2
0481	703	10·5	3. 13. 51·8	−0·5	9. 2. 33·0	−0·1
	739	10·5	51·8	−0·5	32·8	−0·3
	754	10·5	52·4	+1·0	33·6	+0·5
0482	718	—	3. 14. 23·7	−0·4	7. 26. 28·8	−0·2
	744	10·0	24·2	+0·6	28·9	−0·1
	759	10·0	23·7	−0·4	29·3	+0·3
0484	716	10·0	3. 14. 44·0	−0·7	8. 59. 48·5	−0·6
	739	10·0	44·4	+0·2	49·8	+0·7
	754	10·0	44·6	+0·7	49·1	0·0
0485	741	9·0	3. 14. 54·4	+1·1	7. 7. 59·7	+0·1
	742	9·0	53·5	−0·6	60·2	+0·6
	769	9·0	53·6	−0·4	59·8	+0·2
	771	9·0	53·7	−0·2	58·7	−0·9
0486	717	10·5	3. 15. 18·9	−0·7	8. 55. 30·4	−0·6
	743	10·5	19·5	+0·7	31·5	+0·5
	755	10·5	19·2	0·0	31·2	+0·2
0487	718	10·5	3. 15. 20·6	−0·4	7. 45. 27·2	+0·1
	754	10·5	20·6	−0·4	27·2	+0·1
	759	10·5	21·3	+1·0	26·8	−0·3
0488	698	10·0	3. 18. 5·5	+0·6	7. 48. 50·7	+0·6
	716	10·5	5·2	0·0	49·5	−0·6
	718	10·0	4·8	−0·8	50·1	0·0
0492	703	10·0	3. 19. 56·9	−0·2	8. 55. 45·7	+0·4
	717	10·5	56·8	−0·5	45·4	+0·1
	739	10·5	57·2	+0·5	44·8	−0·5
0493	711	10·5	3. 20. 41·8	−0·4	7. 7. 48·6	−1·2
	718	10·0	41·5	−0·9	50·2	+0·4
	741	10·0	42·6	+1·1	50·7	+0·9
0494	698	10·5	3. 20. 50·4	+0·4	7. 59. 48·4	+0·6
	716	10·5	49·7	−1·1	47·7	−0·1
	739	10·5	50·4	+0·4	47·3	−0·5
0495	698	9·5	3. 21. 14·8	0·0	7. 7. 7·5	+0·1
	711	9·5	15·1	+0·6	6·8	−0·6
	718	9·0	14·4	−0·8	7·8	+0·4
0501	698	10·0	3. 23. 36·8	+0·2	8. 35. 12·6	+0·2
	711	10·0	36·5	−0·5	12·2	−0·2
	716	10·0	36·7	0·0	12·4	0·0
0506	703	10·5	3. 27. 28·6	+1·6	8. 27. 32·4	+0·7
	716	10·5	27·5	−0·9	30·6	−1·1
	741	10·5	27·7	−0·4	32·2	+0·5
0507	711	10·0	3. 27. 35·4	−0·7	9. 0. 36·4	−0·3
	718	10·0	35·8	+0·2	36·8	+0·1
	743	10·0	36·0	+0·7	36·8	+0·1
0510	703	10·5	3. 28. 32·4	−0·2	7. 26. 23·6	0·0
	739	10·5	32·5	0·0	23·5	−0·1
	742	10·0	32·5	0·0	23·6	0·0
0511	711	9·0	3. 28. 49·1	+0·2	8. 54. 38·9	−1·4
	744	9·0	49·1	+0·2	41·0	+0·7
	755	9·0	48·7	−0·7	41·0	+0·7
0513	718	10·5	3. 29. 10·6	0·0	7. 50. 59·0	−0·1
	743	10·5	10·8	+0·4	58·2	−0·9
	759	10·5	10·5	−0·2	60·0	+0·9
0514	716	10·5	3. 29. 14·2	−0·7	8. 18. 28·9	−1·1
	741	10·0	14·4	−0·2	30·8	+0·8
	754	10·5	14·9	+0·9	30·3	+0·3
0515	703	10·0	3. 29. 18·8	−1·3	7. 3. 9·1	+0·6
	755	10·0	20·1	+1·1	7·9	−0·6
	771	10·0	19·5	0·0	8·6	+0·1
0516	711	10·0	3. 29. 28·1	−0·5	8. 53. 2·8	+0·1
	744	10·0	27·9	−0·9	2·2	−0·5
	769	10·0	28·8	+1·2	2·8	+0·1
	771	10·0	28·4	+0·2	3·1	+0·4
0519	739	10·0	3. 30. 0·1	−0·2	7. 11. 28·8	−0·4
	743	10·5	0·0	−0·4	29·3	+0·1
	759	10·5	0·5	+0·6	29·6	+0·4
0520	718	10·0	3. 30. 22·7	−0·4	7. 53. 33·1	+0·1
	742	10·0	22·9	0·0	33·0	0·0
	759	10·0	23·2	+0·6	33·0	0·0
0521	741	9·5	3. 30. 30·9	−0·8	7. 42. 58·7	−0·5
	754	9·0	31·2	−0·2	59·0	−0·2
	769	9·5	31·7	+0·8	59·4	+0·2
	771	9·5	31·4	+0·2	59·7	+0·5

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0523	739	10·0	3. 31. 29·5	−0·2	8. 19. 4·3	−0·1
	744	10·0	29·7	+0·2	4·8	+0·4
	755	10·0	29·6	0·0	4·2	−0·2
0524	711	10·5	3. 31. 55·1	−0·8	7. 58. 57·4	−0·6
	716	10·5	55·3	−0·4	58·0	0·0
	754	10·5	56·2	+1·5	58·6	+0·6
0526	713	10·0	3. 33. 4·6	−0·9	8. 11. 20·2	0·0
	739	10·0	4·7	−0·6	19·9	−0·3
	755	10·0	5·7	+1·5	20·4	+0·2
0527	703	10·5	3. 33. 6·1	−0·2	8. 44. 40·4	−0·8
	718	10·5	5·5	−1·6	42·5	+1·3
	741	10·5	6·9	+1·6	40·6	−0·6
0528	713	10·0	3. 33. 11·7	+0·6	8. 11. 0·9	−0·3
	739	10·0	11·1	−0·6	1·6	+0·4
	755	10·5	11·3	−0·2	1·2	0·0
0534	711	10·5	3. 34. 51·0	+0·9	7. 4. 23·7	+0·3
	742	10·5	49·6	−1·7	23·6	+0·2
	743	10·5	50·8	+0·6	22·8	−0·6
0535	698	10·0	3. 35. 59·1	−1·1	8. 24. 52·3	−0·2
	739	10·0	59·7	+0·2	52·6	+0·1
	741	10·0	59·9	+0·7	52·6	+0·1
0536	703	10·0	3. 36. 15·3	−1·2	8. 52. 46·9	−0·9
	718	10·0	15·9	+0·2	48·4	+0·6
	742	10·0	16·3	+1·2	48·0	+0·2
0539	698	8·0	3. 37. 37·6	−0·2	8. 33. 13·4	−0·4
	713	8·0	37·9	+0·5	14·1	+0·3
	744	8·0	37·6	−0·2	13·8	0·0
0540	711	10·5	3. 37. 46·3	+0·4	7. 56. 48·7	−0·1
	741	10·5	45·9	−0·4	49·3	+0·5
	744	10·5	46·1	0·0	48·5	−0·3
0541	739	10·0	3. 37. 52·2	−0·8	7. 33. 39·1	+0·3
	743	9·5	52·7	+0·2	38·4	−0·4
	754	10·0	52·9	+0·6	39·0	+0·2
0543	703	9·0	3. 38. 8·7	0·0	8. 51. 10·7	−0·2
	718	8·0	8·5	−0·5	11·5	+0·6
	754	9·0	8·8	+0·2	10·5	−0·4
0549	698	10·0	3. 41. 21·1	−0·2	8. 40. 42·9	+0·4
	703	10·0	21·4	+0·5	42·6	+0·1
	711	10·0	21·1	−0·2	41·9	−0·6
0550	693	10·5	3. 42. 16·1	−1·5	8. 3. 56·8	+0·7
	711	10·5	17·3	+1·1	55·8	−0·3
	739	10·5	17·0	+0·4	55·7	−0·4
0552	698	10·0	3. 43. 57·6	−0·4	7. 42. 47·1	−0·6
	713	10·0	58·0	+0·4	47·4	−0·3
	742	10·0	57·8	0·0	48·6	+0·9
0553	698	10·0	3. 44. 30·9	−1·4	8. 43. 8·9	+0·3
	713	10·0	31·8	+0·7	9·1	+0·5
	743	10·0	31·8	+0·7	7·9	−0·7
0555	711	10·0	3. 44. 44·9	−0·9	8. 28. 6·3	−0·9
	739	10·0	45·2	−0·2	7·6	+0·4
	741	10·0	45·8	+1·1	7·7	+0·5
0556	703	9·5	3. 44. 49·1	−0·6	7. 17. 37·2	+0·6
	741	9·5	49·9	+1·0	36·1	−0·5
	743	9·5	49·2	−0·4	36·4	−0·2
0559	693	10·5	3. 45. 44·9	0·0	7. 19. 35·2	+0·5
	703	10·5	44·6	−0·6	33·7	−1·0
	742	10·5	45·1	+0·4	35·1	+0·4
0562	698	10·0	3. 46. 33·8	+0·5	8. 55. 4·7	−1·2
	739	10·0	33·2	−0·9	6·1	+0·2
	744	10·0	33·8	+0·5	6·9	+1·0
0563	711	10·0	3. 47. 10·3	+0·4	7. 49. 51·1	−1·0
	741	10·0	10·3	+0·4	52·3	+0·2
	744	10·0	9·7	−0·8	52·9	+0·8
0564	693	10·5	3. 47. 57·8	−0·6	7. 11. 49·2	+1·1
	739	10·5	58·2	+0·2	47·7	−0·4
	743	10·5	58·2	+0·2	47·5	−0·6
0566	713	10·5	3. 48. 14·4	−0·4	7. 56. 2·7	+0·3
	741	10·0	14·7	+0·2	1·2	−1·2
	754	10·5	14·6	0·0	3·4	+1·0
0567	698	10·5	3. 49. 20·1	−1·4	8. 34. 35·0	−0·1
	742	10·5	20·7	0·0	35·9	+0·8
	754	10·5	21·4	+1·6	34·5	−0·6
0568	698	10·0	3. 49. 57·1	+0·5	8. 58. 4·4	−0·1
	718	10·0	56·4	−1·2	4·4	−0·1
	739	10·5	57·3	+0·9	4·7	+0·2
0570	693	10·5	3. 51. 10·3	+1·1	8. 12. 12·1	+0·4
	711	10·5	9·2	−1·3	11·7	0·0
	741	10·0	10·0	+0·4	11·4	−0·3
0576	713	10·5	3. 53. 6·7	−1·1	8. 2. 48·2	−0·1
	742	10·5	6·3	−1·9	48·4	+0·1
	744	10·5	8·5	+2·8	48·4	+0·1
0577	711	9·0	3. 53. 45·8	−0·4	8. 24. 14·0	−0·5
	741	9·0	46·1	+0·2	14·8	+0·3
	743	9·0	46·2	+0·4	14·8	+0·3
0578	698	10·0	3. 53. 48·8	+0·9	8. 58. 14·3	−0·6
	718	10·0	48·7	+0·7	15·3	+0·4
	739	10·5	47·6	−1·9	15·0	+0·1
0581	698	9·0	3. 55. 9·9	−0·2	8. 56. 55·0	−0·3
	718	9·0	9·9	−0·2	55·6	+0·3
	742	9·0	10·2	+0·4	55·2	−0·1
0583	693	10·5	3. 55. 27·8	0·0	7. 59. 20·5	+0·9
	711	10·5	27·5	−0·6	8·4	−1·2
	713	10·0	28·2	+0·8	10·0	+0·4
0584	711	8·0	3. 55. 39·6	−0·5	8. 44. 35·5	−0·2
	739	9·0	40·3	+1·2	35·5	−0·2
	744	9·0	39·6	−0·5	36·0	+0·3
0595	693	10·5	3. 59. 44·9	+0·2	7. 8. 17·5	+0·1
	703	10·0	44·3	−0·9	17·3	−0·1
	713	10·0	45·2	+0·8	17·5	+0·1
0599	693	10·5	4. 2. 21·2	0·0	8. 31. 31·6	0·0
	703	10·5	21·2	0·0	31·8	+0·2
	718	10·0	21·3	+0·2	31·3	−0·3
0601	711	10·0	4. 3. 27·8	−0·6	7. 53. 16·5	−0·7
	713	10·0	28·3	+0·4	16·8	−0·4
	718	10·0	28·3	+0·4	18·3	+1·1
0606	711	10·5	4. 5. 57·1	−0·2	9. 5. 17·6	−1·7
	718	10·0	56·8	−1·0	20·2	+0·9
	719	10·5	57·7	+1·2	20·0	+0·7
0607	704	10·0	4. 6. 0·3	−0·4	8. 0. 7·8	+0·8
	711	10·0	0·2	−0·6	6·8	−0·2
	713	10·0	1·0	+1·1	6·5	−0·5
0609	704	10·0	4. 7. 12·6	−0·8	7. 38. 38·9	+0·6
	713	10·0	13·2	+0·4	38·3	0·0
	741	10·0	13·2	+0·4	37·6	−0·7
0612	711	10·5	4. 8. 18·0	−0·9	8. 10. 10·8	+0·1
	718	10·5	18·1	−0·6	12·0	+1·3
	741	10·5	19·1	+1·5	9·2	−1·5
0613	718	10·0	4. 8. 48·2	−0·4	8. 31. 26·1	+0·4
	719	10·0	49·0	+1·3	25·7	0·0
	743	10·0	48·1	−0·7	25·2	−0·5
0614	703	9·5	4. 9. 31·3	−0·8	7. 50. 30·0	−0·2
	719	9·0	31·9	+0·4	29·9	−0·3
	743	9·0	31·8	+0·2	30·6	+0·4
0615	704	10·5	4. 9. 52·9	−1·3	8. 28. 46·6	0·0
	711	10·5	53·4	−0·2	45·5	−1·1
	744	10·5	54·2	+1·6	47·8	+1·2
0616	703	10·5	4. 10. 36·3	−1·8	7. 35. 29·8	−0·7
	719	10·5	37·8	+1·2	30·3	−0·2
	728	10·5	37·6	+0·8	31·3	+0·8
0621	703	9·5	4. 12. 29·4	0·0	9. 2. 17·5	+0·3
	704	9·0	29·4	0·0	18·5	+1·3
	713	9·0	29·3	−0·2	15·7	−1·5
0625	704	10·5	4. 15. 10·3	0·0	8. 55. 6·1	+0·7
	711	10·5	10·1	−0·5	3·6	−1·8
	719	10·5	10·5	+0·5	6·6	+1·2
0631	704	10·5	4. 17. 7·0	+0·4	7. 37. 29·1	+0·1
	713	10·5	6·6	−0·4	29·5	+0·5
	719	10·5	6·8	0·0	28·3	−0·7
0632	703	10·5	4. 17. 23·6	+0·2	8. 4. 7·0	−1·2
	711	10·5	22·7	−1·7	7·7	−0·5
	719	10·5	24·1	+1·3	9·8	+1·6
0636	713	10·5	4. 18. 49·4	0·0	7. 54. 54·0	−0·1
	718	11·0	49·0	−0·8	53·7	−0·4
	742	10·5	49·8	+0·8	54·7	+0·6
0638	693	10·0	4. 19. 29·7	+0·8	8. 0. 1·7	+0·2
	703	10·0	29·1	−0·4	1·3	−0·2
	711	10·0	29·2	−0·2	1·6	+0·1
0639	703	10·0	4. 19. 32·0	−0·6	8. 8. 57·6	−0·3
	704	10·0	31·8	−1·1	57·3	−0·6
	728	10·0	33·1	+1·7	58·8	+0·9
0646	693	9·5	4. 23. 20·0	−0·7	8. 18. 53·7	+1·2
	711	10·0	20·0	−0·7	51·5	−1·0
	713	9·5	20·8	+1·1	52·4	−0·1
0649	704	10·0	4. 24. 39·8	0·0	8. 44. 31·1	−0·6
	718	10·0	39·9	+0·2	33·0	+1·3
	719	10·0	39·8	0·0	31·1	−0·6
0650	693	10·0	4. 25. 22·3	−0·4	7. 34. 22·6	−0·1
	719	10·0	22·3	−0·4	23·0	+0·3
	742	10·0	23·0	+1·0	22·4	−0·3
0651	704	10·0	4. 26. 4·9	−0·7	8. 47. 11·7	0·0
	718	10·0	5·5	+0·7	11·4	−0·3
	744	10·0	5·2	0·0	12·1	+0·4

0616. Another star of the same magnitude follows at some distance more northerly.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″				h m s	″	° ′ ″	″
0653	718	10·5	4. 26. 52·9	−1·4	8. 50. 61·4	+1·2	0713	710	10·5	4. 48. 29·3	0·0	7. 20. 45·9	+0·2
	739	10·5	53·8	+0·7	60·3	+0·1		717	10·0	29·2	−0·2	45·8	+0·1
	743	10·5	53·7	+0·5	59·0	−1·2		725	10·5	29·5	+0·4	45·4	−0·3
0654	693	9·0	4. 27. 7·5	−0·2	7. 4. 10·7	+0·5	0718	704	10·5	4. 49. 31·1	−0·2	8. 39. 49·7	+0·2
	743	9·0	7·5	−0·2	9·5	−0·7		716	10·0	31·1	−0·2	48·8	−0·7
	759	9·0	7·7	+0·2	10·5	+0·3		719	10·5	31·5	+0·7	50·1	+0·6
0655	704	9·5	4. 27. 12·9	−0·7	8. 48. 33·0	+0·3	0720	710	10·0	4. 50. 11·8	−2·0	8. 15. 9·1	+1·0
	739	10·0	13·3	+0·2	33·0	+0·3		711	10·0	13·3	+1·3	6·8	−1·3
	754	10·0	13·3	+0·2	32·2	−0·5		717	10·0	13·0	+0·7	8·3	+0·2
0656	719	10·0	4. 27. 12·9	−1·4	8. 33. 46·9	+0·5	0722	704	9·0	4. 51. 60·0	+0·2	8. 57. 41·4	+0·3
	742	10·5	13·6	+0·2	46·9	+0·5		716	9·0	60·0	+0·2	40·9	−0·2
	754	10·5	14·1	+1·4	45·3	−1·1		719	9·0	59·7	−0·5	41·0	−0·1
0658	728	9·5	4. 28. 1·9	0·0	8. 11. 42·1	+1·0	0723	693	10·5	4. 52. 15·9	+0·7	8. 28. 54·4	+0·5
	739	10·0	2·0	+0·2	39·8	−1·3		711	10·5	15·4	−0·4	52·6	−1·3
	744	10·0	1·8	−0·2	41·3	+0·2		717	10·5	15·6	0·0	54·6	+0·7
0659	718	9·5	4. 28. 55·8	−0·2	8. 40. 12·6	0·0	0730	693	10·5	4. 57. 47·3	+0·2	7. 44. 47·0	−0·3
	719	9·5	56·0	+0·2	13·2	+0·6		703	10·5	47·3	+0·2	47·7	+0·4
	742	9·5	55·9	0·0	12·1	−0·5		711	10·5	46·9	−0·6	47·2	−0·1
0661	704	10·0	4. 29. 43·5	−0·2	7. 32. 21·7	+0·7	0733	693	10·0	4. 58. 56·2	0·0	7. 32. 27·5	−0·1
	739	10·0	43·5	−0·2	20·6	−0·4		704	10·0	56·1	−0·2	28·2	+0·6
	743	10·0	43·8	+0·4	20·7	−0·3		711	10·5	56·4	+0·4	27·1	−0·5
0664	711	10·0	4. 30. 32·4	+0·4	7. 24. 50·5	−0·9	0737	704	10·0	5. 0. 15·3	−0·7	8. 47. 26·9	+0·6
	717	10·0	31·7	−1·0	51·5	+0·1		710	10·0	15·6	0·0	27·5	+1·2
	744	10·0	32·4	+0·4	52·2	+0·8		711	10·0	15·9	+0·7	24·5	−1·7
0665	711	9·0	4. 30. 59·1	+0·5	8. 37. 21·1	−1·0	0742	703	9·0	5. 2. 39·6	+0·6	7. 44. 39·4	+0·5
	718	8·0	58·8	−0·2	22·9	+0·8		710	9·0	39·0	−0·6	39·6	+0·7
	725	8·0	58·9	0·0	22·2	+0·1		716	9·0	39·3	0·0	37·7	−1·2
0673	693	10·0	4. 32. 56·9	+0·2	8. 55. 12·7	+0·6	0745	704	10·0	5. 3. 54·8	+0·4	7. 27. 26·0	−0·1
	719	10·0	57·0	+0·5	12·1	0·0		710	10·0	54·4	−0·4	26·4	+0·3
	739	10·0	56·5	−0·7	11·5	−0·6		717	10·0	54·5	−0·2	26·0	−0·1
0675	693	—	4. 33. 25·0	+0·7	9. 3. 37·3	−0·1	0746	703	10·0	5. 4. 17·4	+0·9	8. 51. 54·1	+0·2
	719	5·0	24·1	−1·4	37·6	+0·2		716	10·0	16·8	−0·5	53·2	−0·7
	742	5·0	24·9	+0·5	37·2	−0·2		717	10·5	16·9	−0·2	54·3	+0·4
0676	704	10·5	4. 34. 5·7	0·0	7. 56. 17·2	+0·4	0749	693	10·5	5. 4. 59·1	−0·2	8. 2. 5·4	0·0
	717	10·5	5·4	−0·6	17·1	+0·3		711	10·5	58·8	−0·8	4·6	−0·8
	739	10·5	5·9	+0·4	16·2	−0·6		719	10·5	59·7	+1·1	6·2	+0·8
0681	693	9·5	4. 35. 51·2	+0·2	8. 58. 15·2	−0·8	0750	710	9·0	5. 5. 27·7	0·0	8. 26. 8·3	+0·7
	717	9·0	50·9	−0·5	16·2	+0·2		711	10·0	27·7	0·0	7·1	−0·5
	719	9·0	51·2	+0·2	16·7	+0·7		716	9·0	27·8	+0·2	7·5	−0·1
0682	704	10·0	4. 35. 56·4	−0·4	7. 33. 6·8	+0·2	0752	703	10·0	5. 6. 37·0	+0·4	8. 29. 37·8	0·0
	711	10·0	56·7	+0·2	6·5	−0·1		716	10·0	36·5	−0·7	37·3	−0·5
	725	10·0	56·6	0·0	6·5	−0·1		717	10·0	36·9	+0·2	38·4	+0·6
0685	711	10·0	4. 37. 46·1	−0·9	8. 14. 56·8	−0·3	0754	693	10·5	5. 7. 46·6	−1·2	8. 53. 35·8	0·0
	719	10·0	46·8	+0·7	58·2	+1·1		711	10·5	46·8	−0·7	35·5	−0·3
	743	10·0	46·7	+0·4	56·4	−0·7		719	10·5	47·8	+1·6	36·0	+0·2
0686	704	10·5	4. 37. 56·4	+0·6	7. 6. 29·6	+0·6	0756	703	10·5	5. 9. 28·2	−0·2	7. 45. 3·0	−0·1
	739	10·5	56·3	+0·4	29·2	+0·2		710	10·5	28·9	+1·2	4·0	+0·9
	742	10·5	55·6	−0·9	28·2	−0·8		716	10·5	27·7	−1·2	2·2	−0·9
0687	717	9·0	4. 38. 28·9	−0·2	7. 42. 55·5	+0·1	0757	693	10·5	5. 9. 33·4	+0·2	8. 54. 46·3	−0·5
	725	9·0	28·9	−0·2	54·5	−0·9		711	10·5	33·4	+0·2	47·2	+0·4
	739	9·0	29·3	+0·6	56·1	+0·7		717	10·5	33·1	−0·5	46·9	+0·1
0690	711	10·5	4. 39. 8·8	−0·7	8. 12. 48·0	+0·2	0762	703	9·5	5. 11. 40·8	0·0	8. 43. 30·2	+0·2
	719	10·5	9·2	+0·2	49·6	+1·8		704	9·5	40·4	−0·9	30·1	+0·1
	743	10·5	9·3	+0·4	45·8	−2·0		719	9·5	41·2	+0·9	29·8	−0·2
0695	704	9·5	4. 40. 15·8	+0·4	7. 39. 20·9	0·0	0764	704	10·5	5. 12. 13·7	−0·2	9. 0. 10·3	+1·4
	711	9·5	15·6	0·0	20·6	−0·3		716	10·0	13·5	−0·7	7·7	−1·2
	717	9·5	15·5	−0·2	21·2	+0·3		717	10·5	14·3	+1·2	8·8	−0·1
0697	742	10·5	4. 40. 42·6	+0·4	7. 10. 34·2	+2·2	0766	716	10·5	5. 13. 17·6	+0·2	7. 40. 60·2	−0·3
	743	10·5	42·3	−0·2	29·4	−2·6		717	10·5	17·7	+0·4	59·3	−1·2
	744	10·5	42·3	−0·2	32·4	+0·4		719	10·5	17·3	−0·4	62·0	+1·5
0700	693	10·5	4. 41. 47·9	0·0	7. 24. 17·9	−0·1	0768	703	9·5	5. 13. 41·8	0·0	8. 57. 55·7	+0·7
	716	10·5	47·9	0·0	18·0	0·0		711	9·5	41·9	+0·2	54·5	−0·5
	719	10·5	48·0	+0·2	18·1	+0·1		719	9·5	41·7	−0·2	54·9	−0·1
0701	704	10·0	4. 43. 17·4	−0·4	7. 44. 4·2	+0·5	0769	704	10·0	5. 15. 6·3	+0·2	8. 47. 41·0	+0·7
	711	10·0	18·1	+1·0	3·1	−0·6		711	10·0	6·3	+0·2	39·3	−1·0
	725	10·0	17·4	−0·4	3·7	0·0		716	10·0	6·1	−0·2	40·5	+0·2
0702	716	10·5	4. 43. 40·4	−1·1	8. 5. 55·8	−0·9	0773	703	10·0	5. 17. 52·9	−0·2	8. 26. 18·3	−0·8
	717	10·5	40·5	−0·9	57·0	+0·3		711	10·0	53·4	+0·9	18·8	−0·3
	719	10·5	41·7	+1·7	57·3	+0·6		717	10·0	52·8	−0·4	20·1	+1·0
0708	693	10·0	4. 45. 53·1	+0·9	8. 14. 28·7	−0·8	0774	704	9·5	5. 18. 13·8	−0·2	7. 24. 48·8	+0·4
	704	10·0	52·5	−0·4	30·5	+1·0		716	9·5	13·8	−0·2	47·7	−0·7
	716	10·0	52·4	−0·7	29·3	−0·2		717	10·0	14·0	+0·2	48·8	+0·4
0710	693	10·5	4. 47. 30·9	−0·8	7. 56. 15·5	−0·1	0781	693	10·5	5. 20. 15·2	0·0	8. 41. 25·6	+0·6
	711	10·0	31·8	+1·0	15·3	−0·3		703	10·5	15·3	+0·2	24·6	−0·4
	725	10·5	31·2	−0·2	16·0	+0·4		710	10·5	15·1	−0·2	24·9	−0·1
0711	693	10·5	4. 47. 34·5	+0·6	7. 56. 54·9	−0·2	0786	693	10·5	5. 23. 46·0	+0·6	7. 19. 47·2	−0·9
	711	10·0	34·1	−0·4	55·5	+0·4		703	10·0	46·1	+0·8	48·3	+0·2
	725	10·5	34·1	−0·4	54·8	−0·3		710	10·0	45·0	−1·4	48·8	+0·7
0712	704	10·0	4. 48. 18·3	−0·5	8. 42. 30·0	+0·3	0789	703	10·5	5. 25. 46·4	−0·2	7. 11. 3·0	+0·7
	716	10·0	18·3	−0·5	28·7	−1·0		710	10·5	45·8	−1·3	3·0	+0·7
	719	10·0	19·0	+1·2	30·3	+0·6		739	10·5	47·4	+1·7	0·8	−1·5

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0790	704	9·0	5. 25. 49·9	−0·9	8. 16. 48·8	+0·3
	716	9·5	50·7	+0·9	48·4	−0·1
	725	9·5	50·4	+0·2	48·2	−0·3
0792	693	10·5	5. 27. 12·4	−0·2	7. 5. 44·1	+0·9
	704	10·5	12·2	−0·6	42·5	−0·7
	716	10·5	13·0	+0·9	43·1	−0·1
0793	703	10·0	5. 27. 30·0	+0·2	7. 25. 2·6	−0·9
	710	10·0	30·3	+0·8	3·0	−0·5
	719	10·5	29·4	−1·0	5·0	+1·5
0798	703	9·0	5. 29. 36·4	−0·2	8. 41. 30·5	−0·8
	716	9·0	36·6	+0·2	31·5	+0·2
	719	9·0	36·5	0·0	31·8	+0·5
0800	704	8·0	5. 30. 11·6	−0·4	7. 17. 50·1	+0·6
	725	8·0	11·9	+0·2	49·6	+0·1
	742	9·0	11·9	+0·2	48·9	−0·6
0802	719	9·5	5. 30. 32·9	−0·6	7. 40. 21·6	0·0
	739	9·5	33·4	+0·4	22·4	+0·8
	754	9·5	33·4	+0·4	20·8	−0·8
0803	693	10·0	5. 30. 41·7	+0·2	9. 0. 28·2	+0·4
	710	10·0	41·6	0·0	28·2	+0·4
	739	10·0	41·6	0·0	27·1	−0·7
0805	703	10·0	5. 31. 32·4	−0·2	8. 41. 56·3	+0·2
	716	10·5	32·1	−0·9	56·4	+0·3
	742	10·5	33·1	+1·4	55·7	−0·4
0807	693	10·0	5. 32. 41·5	+1·3	8. 17. 15·6	+0·5
	704	10·0	40·3	−1·3	15·6	+0·5
	725	10·0	41·0	+0·2	14·1	−1·0
0811	703	10·5	5. 34. 15·7	0·0	7. 12. 31·4	−0·1
	710	10·5	16·2	+0·9	31·7	+0·2
	716	10·5	15·1	−1·1	31·4	−0·1
0813	703	10·0	5. 35. 8·2	+0·2	8. 58. 53·6	+0·3
	704	10·0	8·0	−0·2	53·4	+0·1
	719	10·0	8·1	0·0	52·9	−0·4
0817	703	10·0	5. 36. 16·2	+0·5	8. 33. 23·0	0·0
	716	10·0	16·2	+0·5	21·7	−1·3
	719	10·0	15·5	−1·1	24·4	+1·4
0818	693	10·0	5. 36. 52·4	−0·9	8. 28. 22·1	+0·7
	710	10·0	53·0	+0·4	20·7	−0·7
	725	10·0	53·1	+0·7	21·3	−0·1
0819	703	10·0	5. 36. 53·8	+0·9	8. 33. 40·3	+0·2
	716	10·0	53·3	−0·2	38·1	−2·0
	719	10·0	53·2	−0·5	41·8	+1·7
0820	704	9·0	5. 37. 0·0	−0·8	7. 33. 57·6	+0·4
	711	9·0	0·3	−0·2	56·8	−0·4
	725	10·0	0·9	+1·0	57·1	−0·1
0824	693	10·0	5. 41. 13·5	0·0	8. 29. 14·5	+0·3
	704	9·5	13·0	−1·1	15·0	+0·8
	710	9·5	14·0	+1·1	14·0	−0·2
	716	9·0	13·5	0·0	13·2	−1·0
0825	693	10·0	5. 41. 32·6	+0·2	9. 4. 3·4	−0·7
	711	10·0	32·8	+0·7	3·8	−0·3
	719	10·0	32·1	−1·0	5·0	+0·9
0828	704	10·5	5. 41. 59·1	−0·4	8. 22. 28·6	−0·2
	711	10·5	59·7	+0·9	29·6	+0·8
	716	10·5	59·2	−0·2	28·2	−0·6
0829	710	10·0	5. 42. 30·7	−1·4	8. 53. 44·2	−0·7
	719	10·0	31·4	+0·2	46·2	+1·3
	725	10·0	31·7	+0·9	44·2	−0·7
0831	703	10·5	5. 43. 14·2	−1·0	7. 17. 48·3	−0·5
	739	10·5	15·2	+1·0	49·0	+0·2
	742	10·5	14·8	+0·2	49·1	+0·3
0834	710	10·0	5. 43. 57·6	+0·9	8. 54. 44·1	+0·1
	719	10·0	56·6	−1·4	44·4	+0·4
	725	10·0	57·5	+0·7	43·6	−0·4
0835	711	10·5	5. 44. 17·1	−0·6	8. 8. 31·0	+0·2
	739	10·5	17·1	−0·6	30·9	+0·1
	754	10·5	17·9	+1·1	30·5	−0·3
0837	703	10·5	5. 44. 50·8	−0·2	8. 17. 29·4	+0·9
	742	10·5	50·7	−0·4	28·3	−0·2
	776	10·5	51·1	+0·4	27·9	−0·6
0838	719	10·0	5. 45. 6·2	−0·7	8. 56. 40·5	−0·5
	754	10·0	6·4	−0·2	41·5	+0·5
	759	10·5	7·0	+1·2	41·0	0·0
0841	693	10·5	5. 47. 53·6	0·0	7. 57. 25·3	+1·0
	711	10·0	53·2	−0·8	23·7	−0·6
	739	10·0	54·1	+1·1	23·9	−0·4
0843	703	10·5	5. 49. 11·6	+0·9	8. 57. 53·2	+0·5
	719	10·5	10·8	−0·9	52·5	−0·2
	742	10·5	11·1	−0·2	52·5	−0·2
0844	693	9·5	5. 49. 18·6	0·0	8. 2. 4·0	+0·5
	711	9·0	18·4	−0·4	3·3	−0·2
	725	9·0	18·7	+0·4	3·1	−0·4
0845	703	10·5	5. 49. 32·1	−1·2	8. 56. 58·3	+0·5
	719	10·5	32·5	−0·2	58·2	+0·4
	739	10·5	33·3	+1·7	56·8	−1·0
0851	693	10·5	5. 51. 26·5	+0·4	8. 1. 5·5	0·0
	710	10·0	26·4	+0·2	6·2	+0·7
	725	10·0	25·9	−0·8	4·7	−0·8
0853	716	10·5	5. 53. 55·2	−2·5	8. 45. 3·1	−0·5
	725	10·5	57·3	+2·3	4·4	+0·8
	739	10·5	56·3	0·0	3·4	−0·2
0854	710	10·0	5. 54. 22·0	+1·1	8. 13. 7·9	−0·7
	719	10·0	20·7	−1·7	9·3	+0·7
	742	10·0	21·8	+0·7	8·6	0·0
0857	704	10·5	5. 54. 29·2	+0·2	7. 36. 16·0	+0·9
	711	10·5	28·5	−1·2	14·9	−0·2
	739	10·5	29·6	+1·0	14·5	−0·6
0858	710	10·0	5. 55. 0·4	−0·2	8. 51. 56·0	+1·0
	711	9·0	0·6	+0·2	54·5	−0·5
	742	10·0	0·4	−0·2	54·5	−0·5
0860	693	9·5	5. 56. 5·3	+0·2	7. 35. 40·4	−0·1
	716	10·0	4·7	−1·0	40·2	−0·3
	719	10·0	5·7	+1·0	41·0	+0·5
0864	704	10·5	5. 57. 39·8	+0·6	7. 7. 29·2	−0·1
	719	10·5	38·6	−1·7	28·5	−0·8
	759	10·5	40·0	+0·9	30·1	+0·8
0865	710	10·5	5. 58. 4·9	+0·4	7. 47. 15·9	+0·8
	739	10·5	4·3	−0·8	15·1	0·0
	742	10·5	4·8	+0·2	14·3	−0·8
0870	711	10·5	5. 58. 21·9	−0·8	7. 37. 60·0	+0·5
	716	10·5	22·3	0·0	59·1	−0·4
	739	10·5	22·7	+0·8	59·4	−0·1
0874	716	10·5	6. 0. 14·0	−0·6	7. 32. 8·3	+0·3
	718	10·5	14·0	−0·6	8·3	+0·3
	725	10·5	14·9	+1·2	7·4	−0·6
0877	716	10·5	6. 1. 47·6	−0·2	7. 7. 52·6	+0·5
	718	10·5	47·8	+0·2	51·9	−0·2
	739	10·5	47·9	+0·4	51·4	−0·7
	742	10·5	47·6	−0·2	52·4	+0·3
0879	710	10·0	6. 3. 35·4	+0·2	7. 23. 19·2	−1·4
	718	9·0	35·5	+0·4	22·0	+1·4
	758	9·5	35·1	−0·4	20·6	0·0
0880	710	10·0	6. 3. 39·2	−0·4	7. 4. 57·6	+0·5
	716	9·5	39·1	−0·6	56·6	−0·5
	742	10·0	39·8	+0·7	57·1	0·0
0881	711	10·5	6. 4. 19·4	−0·7	8. 43. 4·5	+0·1
	739	10·5	19·4	−0·7	5·0	+0·6
	789	10·5	20·2	+1·2	3·6	−0·8
0883	711	10·5	6. 4. 31·1	−0·5	9. 0. 44·1	−1·1
	776	10·5	31·3	0·0	44·5	−0·7
	909*	10·5	31·6	+0·7	47·1	+1·9
0886	693	10·5	6. 4. 51·8	+0·2	7. 59. 15·6	+1·4
	776	10·5	51·5	−0·4	13·2	−1·0
	909*	10·5	51·8	+0·2	13·7	−0·5
0887	716	10·5	6. 5. 47·5	−0·6	7. 2. 10·6	+1·3
	739	11·0	48·0	+0·4	8·8	−0·5
	789	10·5	48·0	+0·4	8·5	−0·8
0890	718	10·5	6. 6. 45·1	−0·5	8. 50. 47·7	0·0
	742	10·5	45·4	+0·2	45·5	−2·2
	909*	10·5	45·5	+0·5	49·9	+2·2
0891	718	10·5	6. 7. 17·1	−2·0	7. 23. 40·0	+1·4
	776	10·5	18·3	+0·4	37·6	−1·0
	789	11·0	19·0	+1·8	38·2	−0·4
0892	710	10·0	6. 7. 21·4	−0·2	8. 35. 53·5	−0·2
	725	10·0	21·5	0·0	54·0	+0·3
	758	10·0	21·5	0·0	53·6	−0·1
0893	693	10·0	6. 7. 28·2	0·0	7. 56. 15·3	+0·6
	754	10·0	28·5	+0·6	14·3	−0·4
	759	10·0	27·9	−0·6	14·6	−0·1
0898	710	10·0	6. 10. 1·8	−0·6	7. 38. 10·9	+1·1
	711	10·0	2·4	+0·6	8·9	−0·9
	725	10·0	2·2	+0·2	9·6	−0·2
0901	711	10·5	6. 10. 29·6	0·0	8. 46. 44·5	−1·0
	718	10·5	29·9	+0·7	47·6	+2·1
	739	10·5	29·4	−0·5	44·3	−1·2
0909	693	9·5	6. 13. 37·8	0·0	7. 28. 44·4	+0·1
	710	9·5	38·1	+0·6	44·6	+0·3
	739	10·0	37·4	−0·8	43·8	−0·5
0910	710	8·0	6. 13. 45·8	−0·2	7. 46. 48·2	+0·7
	711	8·0	45·9	0·0	47·1	−0·4
	725	8·0	46·0	+0·2	47·2	−0·3
0913	693	10·5	6. 14. 48·1	+0·6	8. 5. 32·5	+1·1
	718	10·5	47·4	−0·9	31·5	+0·1
	739	10·5	48·0	+0·4	30·3	−1·1

0870. S.p. star of 2.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0914	711	10·0	6. 15. 1·7	+0·4	8. 16. 16·0	−0·6
	719	10·0	1·1	−0·9	17·2	+0·6
	742	10·0	1·7	+0·4	16·7	+0·1
0918	693	10·0	6. 16. 45·7	+0·6	8. 4. 5·8	+0·5
	711	10·0	45·0	−0·9	4·4	−0·9
	725	10·0	45·4	0·0	5·7	+0·4
0921	719	10·5	6. 17. 33·8	−1·2	7. 18. 24·7	+1·4
	742	10·5	34·7	+0·6	22·8	−0·5
	754	10·5	34·8	+0·8	22·4	−0·9
0922	718	10·5	6. 17. 35·4	−0·9	8. 6. 60·9	+0·8
	739	10·5	36·5	+1·5	59·7	−0·4
	759	10·5	35·6	−0·4	59·8	−0·3
0924	718	10·5	6. 18. 5·1	−1·2	7. 19. 43·3	+0·6
	742	10·5	5·5	−0·4	42·2	−0·5
	754	10·5	6·6	+1·7	42·7	0·0
0925	719	10·5	6. 18. 58·4	−0·9	8. 35. 57·4	0·0
	739	10·5	59·1	+0·7	56·6	−0·8
	759	10·5	58·8	0·0	58·1	+0·7
0926	693	10·0	6. 19. 45·7	−0·8	7. 30. 5·5	+0·8
	725	10·0	46·3	+0·4	4·5	−0·2
	754	10·0	46·4	+0·6	4·0	−0·7
0928	711	9·0	6. 20. 35·6	−0·2	8. 44. 17·8	−0·5
	719	9·5	35·4	−0·7	18·1	−0·2
	759	9·5	36·0	+0·7	19·1	+0·8
0930	711	10·0	6. 21. 21·4	0·0	7. 36. 59·1	+0·2
	718	10·0	20·9	−1·0	59·6	+0·7
	739	10·5	21·8	+0·8	58·1	−0·8
0932	693	10·5	6. 22. 17·4	+0·4	7. 48. 56·5	0·0
	710	10·5	17·1	−0·2	56·3	−0·2
	718	10·0	17·2	0·0	56·8	+0·3
0939	711	10·5	6. 24. 28·7	+1·0	7. 16. 56·8	−0·2
	718	10·5	28·2	0·0	58·8	+1·8
	719	10·5	27·6	−1·2	55·4	−1·6
0943	710	10·0	6. 26. 40·6	+0·8	7. 16. 1·8	−0·6
	719	10·0	39·6	−1·2	2·9	+0·5
	759	10·0	40·5	+0·6	2·5	+0·1
0944	693	9·5	6. 27. 9·3	−0·2	7. 21. 37·6	+0·6
	725	9·5	9·6	+0·4	36·6	−0·4
	739	9·5	9·3	−0·2	36·9	−0·1
0946	719	10·5	6. 27. 59·8	−0·2	8. 8. 53·3	−1·7
	742	10·0	59·6	−0·6	56·1	+1·1
	754	10·5	60·3	+0·9	55·5	+0·5
0949	718	10·5	6. 28. 12·1	−0·6	7. 19. 31·8	0·0
	739	10·5	12·8	+0·8	30·3	−1·5
	754	10·5	12·2	−0·4	33·4	+1·6
0952	718	10·5	6. 29. 34·7	−0·4	7. 10. 23·9	+1·7
	739	10·5	35·4	+0·9	20·3	−1·9
	742	10·5	34·6	−0·6	22·4	+0·2
0954	719	9·0	6. 30. 3·3	+0·2	7. 34. 53·3	+0·2
	725	9·0	3·2	0·0	52·4	−0·7
	754	10·0	3·0	−0·4	53·5	+0·4
0955	725	10·0	6. 30. 52·4	−0·5	8. 54. 53·1	+0·4
	739	10·0	52·5	−0·2	52·1	−0·6
	759	10·0	52·9	+0·7	52·9	+0·2
0960	710	10·0	6. 31. 58·9	0·0	7. 13. 27·2	−0·6
	711	10·0	59·0	+0·2	27·6	−0·2
	718	9·5	58·7	−0·4	28·7	+0·9
0966	710	10·5	6. 34. 6·4	−0·4	7. 34. 35·7	+0·4
	711	10·5	6·5	−0·2	34·7	−0·6
	739	10·5	6·8	+0·4	35·5	+0·2
0971	711	9·5	6. 36. 23·4	0·0	8. 48. 26·5	−0·2
	719	10·0	23·4	0·0	27·5	+0·8
	725	10·0	23·4	0·0	26·0	−0·7
0972	718	9·5	6. 36. 34·4	−1·3	7. 56. 51·7	+0·5
	719	10·0	35·1	+0·2	51·3	+0·1
	739	9·5	35·4	+0·8	50·5	−0·7
0976	718	10·0	6. 38. 24·1	+0·6	8. 3. 47·4	+0·4
	725	10·0	23·3	−1·1	45·9	−1·1
	742	10·0	24·0	+0·4	47·7	+0·7
0978	711	10·0	6. 38. 55·1	0·0	8. 57. 23·1	+0·4
	719	10·5	55·0	−0·2	22·4	−0·3
	739	10·0	55·2	+0·2	22·6	−0·1
0980	711	9·5	6. 40. 15·1	0·0	8. 36. 18·4	−0·4
	739	10·0	15·1	0·0	18·1	−0·7
	742	9·5	15·1	0·0	19·8	+1·0
0983	725	10·5	6. 41. 57·7	−0·7	8. 46. 23·3	+0·5
	739	10·0	57·9	−0·2	23·6	+0·8
	758	10·0	58·4	+0·9	21·6	−1·2
0985	710	10·0	6. 42. 11·2	−1·1	8. 13. 12·8	+0·1
	741	10·0	12·0	+0·7	11·8	−0·9
	754	10·0	11·9	+0·4	13·4	+0·7

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
0986	711	10·5	6. 42. 25·9	−0·6	7. 11. 14·9	+0·5
	739	10·5	26·5	+0·6	13·9	−0·5
0989	742	10·5	6. 42. 43·5	—	7. 11. 31·5	—
0988	719	10·0	6. 42. 38·5	−1·3	8. 26. 11·2	−0·2
	741	10·0	39·3	+0·4	11·6	+0·2
	754	10·0	39·5	+0·9	11·5	+0·1
0992	710	9·0	6. 44. 44·8	−0·6	7. 20. 55·4	+0·5
	725	8·0	45·1	0·0	55·3	+0·4
	758	9·0	45·4	+0·6	54·0	−0·9
0994	711	10·5	6. 46. 5·3	−1·3	7. 59. 28·5	−0·9
	741	10·5	6·0	+0·2	30·1	+0·7
	758	10·5	6·5	+1·3	29·6	+0·2
0995	710	10·5	6. 46. 13·6	−0·7	8. 28. 9·8	−0·2
	741	10·5	14·3	+0·9	10·7	+0·7
	754	10·5	13·7	−0·4	9·6	−0·4
0998	711	10·0	6. 47. 29·6	−0·2	8. 46. 17·8	−0·3
	742	10·0	29·7	0·0	17·5	−0·6
	754	10·0	29·9	+0·5	19·1	+1·0
0999	710	10·0	6. 47. 32·0	−0·2	8. 44. 8·9	−0·6
	725	10·0	32·1	0·0	10·1	+0·6
	742	10·0	32·1	0·0	9·4	−0·1
1001	739	10·5	6. 50. 15·4	−0·4	7. 43. 0·3	0·0
	741	10·5	15·3	−0·6	0·4	+0·1
	754	10·5	16·2	+1·2	0·2	−0·1
1007	710	10·5	6. 53. 36·9	−0·2	8. 29. 30·3	+1·3
	741	10·5	36·9	−0·2	28·8	−0·2
	758	10·5	37·2	+0·4	28·0	−1·0
1008	711	9·0	6. 53. 49·1	+0·2	8. 53. 49·5	+0·2
	725	9·0	48·8	−0·5	49·6	+0·3
	758	9·0	49·0	0·0	48·9	−0·4
1010	739	10·5	6. 53. 56·2	0·0	8. 35. 48·2	0·0
	741	10·5	56·6	+0·9	47·1	−1·1
	742	10·5	55·9	−0·7	49·3	+1·1
1014	711	10·0	6. 55. 26·5	+0·2	8. 51. 3·5	+0·2
	739	10·0	26·6	+0·5	2·4	−0·9
	759	10·0	26·1	−0·7	3·9	+0·6
1017	725	10·0	6. 55. 43·3	−0·8	7. 27. 24·9	−1·2
	742	10·0	43·5	−0·4	26·3	+0·2
	776	10·0	44·4	+1·4	27·0	+0·9
1018	710	10·0	6. 56. 14·0	−0·4	7. 56. 46·8	+0·6
	739	10·0	14·3	+0·2	46·1	−0·1
	758	10·0	14·4	+0·4	45·6	−0·6
1021	710	8·0	6. 57. 39·0	−0·9	8. 29. 35·5	+0·5
	741	8·0	39·7	+0·7	35·1	+0·1
	759	8·0	39·6	+0·4	34·5	−0·5
1024	739	10·0	6. 59. 41·7	+0·9	8. 46. 13·3	−0·1
	741	10·0	41·4	+0·2	13·1	−0·3
	789	10·0	40·9	−0·9	13·8	+0·4
1026	725	10·5	7. 0. 7·1	−1·6	8. 41. 53·3	+1·1
	758	10·5	8·2	+0·9	52·2	0·0
	776	10·5	8·1	+0·7	51·2	−1·0
1027	710	6·0	7. 0. 18·2	−0·6	7. 19. 28·0	+0·1
	776	5·0	18·4	−0·2	27·7	−0·2
	803	6·0	18·8	+0·6	27·9	0·0
1028	739	10·5	7. 0. 44·4	−0·2	8. 37. 42·0	0·0
	759	10·5	45·2	+1·6	42·1	+0·1
	789	10·5	43·8	−1·6	41·9	−0·1
1030	741	10·5	7. 2. 1·0	+0·6	7. 57. 35·6	+1·3
	758	10·5	0·9	+0·4	33·4	−0·9
	803	10·5	0·2	−1·1	33·9	−0·4
1031	710	10·0	7. 2. 9·2	+0·7	8. 54. 29·6	+0·1
	789	10·5	9·1	+0·5	29·7	+0·2
	912*	10·0	8·5	−0·9	29·1	−0·4
1032	739	10·5	7. 2. 23·1	−0·4	8. 26. 56·0	+0·4
	759	10·5	23·6	+0·7	54·5	−1·1
	909*	11·0	23·2	−0·2	56·2	+0·6
1033	759	10·5	7. 2. 26·3	0·0	7. 4. 5·0	+0·9
	776	10·5	27·2	+1·7	1·7	−2·4
	912*	10·5	25·3	−1·9	5·7	+1·6
1037	710	10·5	7. 4. 16·0	−1·4	8. 51. 52·8	+0·1
	741	10·5	16·9	+0·7	52·5	−0·2
	803	10·5	16·9	+0·7	52·7	0·0
1038	725	10·5	7. 4. 38·3	−0·2	8. 10. 9·1	−0·6
	758	10·5	38·9	+1·1	9·6	−0·1
	789	10·5	37·9	−1·1	10·3	+0·6
1039	739	10·5	7. 5. 31·0	−0·2	8. 42. 41·5	+0·5
	776	10·5	31·4	+0·7	39·5	−1·5
	909*	10·5	30·8	−0·7	42·0	+1·0
1040	741	9·0	7. 5. 36·8	−0·4	7. 43. 30·4	+0·7
	758	9·0	37·2	+0·4	29·3	−0·4
	803	9·0	37·0	0·0	29·5	−0·2

0989 on 742. Observed in mistake for 0986. I find there are two stars here; though they were never both seen at once on the meridian.

1027. The light of this star was noted to be reddish.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1042	710	10·5	7. 5. 58·0	0·0	8. 1. 57·9	0·0
	759	10·5	58·2	+0·4	58·1	+0·2
	789	10·5	57·9	−0·2	57·8	−0·1
1044	725	10·0	7. 7. 41·5	−0·8	7. 11. 15·9	−0·1
	741	10·0	42·2	+0·6	15·9	−0·1
	759	10·0	42·1	+0·4	16·2	+0·2
1045	739	8·0	7. 8. 2·6	−0·7	8. 49. 19·8	+0·2
	758	8·0	3·5	+1·4	19·3	−0·3
	776	8·0	2·7	−0·5	19·8	+0·2
1055	710	10·5	7. 12. 19·5	−0·6	7. 8. 4·6	−0·3
	739	11·0	19·6	−0·4	5·7	+0·8
	741	10·5	20·2	+0·8	4·4	−0·5
1056	710	10·5	7. 12. 31·1	0·0	7. 55. 29·1	+1·2
	739	10·5	31·1	0·0	26·3	−1·6
	741	10·5	31·0	−0·2	28·3	+0·4
1067	710	10·5	7. 15. 36·5	−0·6	7. 7. 21·4	−0·2
	739	10·5	37·0	+0·4	21·9	+0·3
	741	10·5	37·0	+0·4	21·5	−0·1
1075	710	10·0	7. 18. 11·6	−0·4	8. 25. 41·4	+1·4
	741	10·0	11·7	−0·2	39·4	−0·6
	758	10·0	12·0	+0·4	39·3	−0·7
1076	739	10·5	7. 18. 18·4	+0·8	7. 33. 58·2	+0·7
	742	10·5	17·3	−1·4	57·7	+0·2
	758	10·5	18·4	+0·8	56·7	−0·8
1077	710	9·0	7. 18. 45·3	+0·2	7. 59. 54·1	−0·2
	742	9·0	45·1	−0·2	54·8	+0·5
	759	9·0	45·2	0·0	54·0	−0·3
1087	710	10·5	7. 23. 13·2	−0·6	7. 32. 36·6	−0·1
	741	10·5	13·7	+0·4	36·3	−0·4
	744	10·5	13·5	0·0	37·3	+0·6
1088	739	10·5	7. 23. 24·5	−0·7	9. 1. 39·7	+0·1
	742	10·5	24·1	−1·7	40·1	+0·5
	758	10·5	25·7	+2·1	39·0	−0·6
1100	758	10·5	7. 29. 22·0	−0·7	8. 34. 45·6	−0·2
	759	10·5	22·0	−0·7	47·0	+1·2
	776	10·5	22·9	+1·4	44·8	−1·0
1101	739	10·5	7. 29. 30·5	−1·0	7. 54. 52·0	+0·7
	758	10·5	31·0	0·0	51·1	−0·2
	776	10·5	31·4	+0·8	50·7	−0·6
1102	742	10·0	7. 29. 54·1	+1·4	7. 49. 23·7	−0·1
	744	10·0	53·3	−0·2	22·9	−0·9
	789	10·5	52·9	−1·0	24·8	+1·0
1105	744	8·0	7. 30. 21·8	−0·4	8. 17. 32·9	+0·2
	759	8·0	21·9	−0·2	32·8	+0·1
	796	8·0	22·2	+0·4	32·5	−0·2
1108	742	10·0	7. 31. 38·0	−1·2	7. 27. 54·4	+1·3
	754	10·5	39·1	+1·0	51·5	−1·6
	796	10·0	38·8	+0·4	53·3	+0·2
1112	744	10·5	7. 33. 15·7	+2·4	7. 45. 20·8	−0·3
	759	10·5	14·2	−0·6	21·5	+0·4
	789	10·5	13·7	−1·6	21·0	−0·1
1115	739	10·5	7. 33. 55·2	−0·4	7. 31. 27·8	−0·2
	758	10·5	55·4	0·0	26·0	−2·0
	796	10·5	55·6	+0·4	30·3	+2·3
1116	754	10·5	7. 34. 26·5	+0·4	7. 51. 4·7	−0·8
	776	10·5	26·8	+1·0	3·9	−1·6
	789	11·0	25·5	−1·7	7·8	+2·3
1118	741	10·5	7. 35. 17·4	−1·2	7. 48. 53·8	+0·2
	742	10·5	17·9	−0·2	54·0	+0·4
	776	10·5	18·6	+1·2	53·0	−0·6
1120	744	10·0	7. 35. 41·4	+0·2	8. 22. 48·4	−0·9
	759	10·0	41·6	+0·7	48·8	−0·5
	789	10·0	41·0	−0·7	50·6	+1·3
1121	758	10·5	7. 36. 23·7	+0·2	8. 54. 5·5	−1·0
	776	10·5	23·8	+0·5	6·0	−0·5
	796	10·5	23·4	−0·5	7·9	+1·4
1125	739	10·0	7. 39. 36·5	0·0	7. 12. 10·8	−0·1
	741	10·0	36·5	0·0	11·1	+0·2
	759	10·0	36·6	+0·2	10·9	0·0
1126	739	10·5	7. 40. 47·4	+0·6	7. 47. 51·1	−0·8
	754	10·5	46·7	−0·8	52·6	+0·7
	776	10·5	47·1	0·0	52·0	+0·1
1128	742	9·0	7. 41. 42·6	−0·2	7. 53. 54·5	+0·1
	758	10·0	43·4	+1·5	54·3	−0·1
	759	9·0	42·9	+0·4	54·0	−0·4
	789	9·0	41·7	−2·1	54·9	+0·5
1129	741	10·5	7. 41. 53·4	+1·4	7. 24. 16·6	−0·2
	758	10·5	53·0	+0·6	16·1	−0·7
	789	10·5	51·6	−2·1	17·7	+0·9
1131	742	10·0	7. 42. 8·6	−0·6	7. 55. 27·1	+0·1
	796	10·0	9·1	+0·4	26·8	−0·2
1132	744	10·5	7. 42. 27·3	−1·8	8. 22. 58·1	+1·2
	776	10·5	28·8	+0·9	55·5	−1·4
	803	10·5	28·8	+0·9	57·2	+0·3
1133	742	10·0	7. 42. 31·7	+0·6	7. 55. 6·3	+0·1
	759	10·5	31·5	+0·2	6·3	+0·1
	796	10·0	31·0	−0·8	6·1	−0·1
1136	754	10·0	7. 43. 10·3	−0·6	7. 7. 48·9	−0·8
	759	10·0	10·7	+0·2	49·8	+0·1
	797	10·0	10·8	+0·4	50·3	+0·6
1137	741	10·5	7. 43. 12·3	−0·2	7. 20. 1·2	−0·8
	754	10·5	12·0	−0·8	2·4	+0·4
	803	10·5	13·0	+1·2	2·4	+0·4
1138	744	10·0	7. 43. 33·4	−1·2	8. 55. 33·2	+0·5
	758	10·5	33·9	0·0	31·6	−1·1
	796	10·5	34·5	+1·4	33·2	+0·5
1139	739	10·5	7. 43. 36·4	−1·8	8. 38. 40·4	+0·6
	776	10·5	37·1	−0·2	40·0	+0·2
	813	10·5	38·2	+2·3	39·1	−0·7
1141	739	10·0	7. 45. 22·7	−0·4	7. 31. 56·1	−0·1
	754	10·0	22·6	−0·6	56·2	0·0
	776	10·0	23·4	+1·0	56·2	0·0
1143	744	9·0	7. 46. 18·1	−0·2	8. 32. 46·6	−0·1
	758	9·0	18·5	+0·7	46·5	−0·2
	789	9·0	18·0	−0·5	46·9	+0·2
1144	742	9·0	7. 46. 27·0	−0·8	7. 50. 16·1	+0·7
	759	9·0	27·5	+0·2	15·9	+0·5
	796	9·0	27·6	+0·4	14·2	−1·2
1146	754	10·5	7. 48. 13·4	−0·7	8. 21. 47·6	+0·1
	758	10·5	13·8	+0·2	46·7	−0·8
	797	10·5	13·9	+0·4	48·3	+0·8
1147	739	10·0	7. 48. 16·6	+0·2	7. 46. 40·2	+0·1
	759	10·0	16·6	+0·2	39·7	−0·4
	789	10·0	16·2	−0·6	40·3	+0·2
1148	744	10·0	7. 48. 46·8	−0·6	7. 37. 23·9	+0·4
	776	10·0	47·2	+0·2	22·4	−1·1
	797	10·0	47·2	+0·2	24·3	+0·8
1151	744	10·5	7. 49. 45·6	−0·9	8. 15. 15·4	0·0
	758	10·5	46·3	+0·7	15·5	+0·1
	776	10·5	46·0	0·0	15·4	0·0
1154	742	10·5	7. 51. 54·7	−0·9	7. 11. 36·3	+1·0
	758	10·5	55·3	+0·2	34·6	−0·7
	759	11·0	55·5	+0·6	35·1	−0·2
1165	741	8·0	7. 56. 2·7	+0·9	7. 7. 57·7	−0·2
	742	8·0	2·3	+0·2	58·6	+0·7
	754	8·0	1·7	−0·9	57·5	−0·4
1172	741	10·5	7. 58. 31·3	0·0	7. 58. 16·2	+0·5
	744	10·0	30·8	−1·1	15·7	0·0
	758	10·5	31·9	+1·3	15·2	−0·5
1176	742	10·5	7. 59. 28·8	0·0	7. 17. 8·9	+1·5
	754	10·5	28·9	+0·2	5·6	−1·8
	759	10·5	28·7	−0·2	7·7	+0·3
1178	754	10·5	8. 0. 2·9	−0·6	7. 23. 11·9	+0·5
	758	10·5	3·6	+0·8	10·3	−1·1
	759	10·0	3·1	−0·2	11·9	+0·5
1179	741	10·0	8. 0. 29·5	+0·2	7. 57. 7·8	0·0
	744	10·0	29·3	−0·2	8·5	+0·7
	776	10·0	29·5	+0·2	7·0	−0·8
1181	741	10·0	8. 1. 41·2	−0·6	7. 26. 54·5	+0·6
	754	10·5	41·1	−0·8	54·5	+0·6
	758	10·0	42·2	+1·4	52·8	−1·1
1186	742	10·0	8. 3. 36·1	0·0	9. 1. 2·4	+0·5
	744	10·0	35·9	−0·5	3·0	+1·1
	758	10·0	36·4	+0·7	0·2	−1·7
1187	741	10·0	8. 3. 40·2	−0·5	9. 2. 58·4	−0·1
	744	10·0	40·6	+0·5	59·3	+0·8
	759	10·0	40·5	−0·2	57·8	−0·7
1191	741	10·0	8. 5. 44·8	+0·9	7. 4. 58·2	+0·4
	758	10·0	44·1	−0·4	57·4	−0·4
	759	10·0	44·1	−0·4	57·9	+0·1
1192	742	10·5	8. 6. 0·0	−2·8	7. 32. 40·9	−0·3
	758	10·5	2·4	+2·0	41·2	0·0
	759	10·5	1·9	+1·0	41·6	+0·4
1197	741	9·5	8. 9. 28·3	+0·6	7. 22. 38·0	−0·1
	744	9·5	27·7	−0·6	38·4	+0·3
	776	9·0	28·1	+0·2	37·9	−0·2
1198	741	10·5	8. 9. 29·3	−0·8	7. 40. 44·5	+0·3
	758	10·5	30·0	+0·6	42·9	−1·3
	759	10·5	29·8	+0·2	45·1	+0·9
1201	742	10·5	8. 11. 7·2	−0·7	7. 4. 39·9	−0·6
	744	10·5	7·3	−0·6	39·9	−0·6
	759	10·5	8·3	+1·3	41·7	+1·2

1115. The second of 2 stars.
1132. The second and brighter of 2 stars.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
1208	744	10·5	8. 13. 15·1	−0·4	7. 48. 59·0	+1·5	1295	741	9·0	8. 46. 6·7	−0·7	8. 20. 33·6	+0·3
	759	10·5	15·4	+0·2	56·8	−0·7		742	9·5	6·8	−0·4	35·1	+1·8
	776	10·5	15·3	0·0	56·8	−0·7		758	10·0	7·5	+1·1	31·3	−2·0
1209	741	10·5	8. 13. 35·2	−0·9	8. 10. 23·5	+0·9	1299	742	10·5	8. 48. 23·6	−0·7	8. 42. 58·3	+2·1
	758	10·5	36·0	+0·9	21·1	−1·5		754	10·5	24·2	+0·7	54·6	−1·6
	776	10·5	35·6	0·0	23·3	+0·7		796	10·5	23·9	0·0	55·8	−0·4
1215	741	10·0	8. 15. 40·7	+0·6	7. 30. 12·2	−0·1	1300	741	10·5	8. 48. 36·7	+0·4	8. 5. 28·5	−0·5
	742	10·0	40·1	−0·6	12·5	+0·2		758	10·5	36·6	+0·2	28·6	−0·4
	759	10·0	40·4	0·0	12·2	−0·1		789	10·5	36·1	−0·9	29·8	+0·8
1220	741	10·0	8. 18. 34·5	−0·4	7. 10. 19·1	−0·7	1301	754	8·0	8. 49. 12·9	−0·2	8. 35. 53·8	−0·2
	744	9·5	34·6	−0·2	19·6	−0·2		776	7·0	13·2	+0·5	54·3	+0·3
	789	9·0	35·0	+0·6	20·5	+0·8		803	8·0	13·0	0·0	53·8	−0·2
1221	742	10·5	8. 19. 3·8	−0·8	7. 54. 20·6	+1·4	1303	758	10·5	8. 49. 59·9	+1·1	8. 16. 50·4	+0·5
	759	10·5	4·0	−0·4	19·1	−0·1		759	10·5	59·8	+0·9	50·3	+0·4
	776	10·5	4·8	+1·3	17·9	−1·3		796	10·5	58·6	−1·7	49·1	−0·8
1222	741	8·0	8. 19. 43·4	−0·4	7. 15. 33·8	+0·6	1305	741	10·5	8. 50. 41·0	−0·2	7. 28. 46·5	0·0
	789	7·0	43·6	0·0	33·6	+0·4		776	10·0	41·1	0·0	46·3	−0·2
	796	8·0	43·8	+0·4	32·2	−1·0		803	10·5	41·1	0·0	46·6	+0·1
1225	742	10·5	8. 21. 33·5	−1·0	7. 50. 18·9	+0·5	1306	742	10·0	8. 51. 31·1	−0·7	8. 18. 7·7	+1·0
	776	10·5	34·0	0·0	17·6	−0·8		759	10·0	31·7	+0·7	6·0	−0·7
	796	10·5	34·6	+1·2	18·8	+0·4		796	10·0	31·4	0·0	6·3	−0·4
1226	741	10·5	8. 21. 45·9	+0·2	8. 47. 4·6	+0·1	1310	754	10·5	8. 53. 32·0	−0·6	7. 42. 25·5	+0·3
	776	10·5	45·9	+0·2	3·9	−0·6		758	10·5	32·0	−0·6	24·7	−0·5
	803	10·5	45·7	−0·2	5·0	+0·5		759	10·5	32·9	+1·2	25·3	+0·1
1227	759	10·5	8. 22. 2·5	−0·2	9. 4. 1·1	−0·4	1311	742	9·5	8. 54. 4·0	−0·7	8. 24. 49·4	+1·2
	789	10·5	2·0	−1·4	2·2	+0·7		758	9·5	4·6	+0·7	47·0	−1·2
	796	10·5	3·3	+1·7	1·2	−0·3		776	10·0	4·3	0·0	48·3	+0·1
1229	741	10·0	8. 22. 52·6	−0·4	8. 28. 6·5	−0·3	1313	741	10·0	8. 54. 30·9	0·0	8. 52. 56·3	−0·9
	789	10·0	52·7	−0·2	7·4	+0·6		754	10·0	30·8	−0·2	58·2	+1·0
	813	10·0	53·2	+0·9	6·4	−0·4		759	10·0	31·0	+0·2	57·2	0·0
1231	759	11·0	8. 23. 17·5	−2·3	8. 2. 20·0	+0·1	1321	741	10·0	8. 57. 42·4	−0·2	8. 45. 30·9	0·0
	803	10·5	18·1	−1·1	20·2	+0·3		754	10·0	42·5	0·0	31·4	+0·5
	813	11·0	21·6	+6·4	19·5	−0·4		759	10·0	42·7	+0·5	30·4	−0·5
1238	741	9·5	8. 26. 32·0	+0·5	8. 59. 46·3	−0·2	1324	741	10·5	8. 58. 55·8	−0·2	8. 0. 48·7	+0·7
	776	9·5	32·1	+0·7	46·6	+0·1		758	10·5	56·2	+0·6	47·2	−0·8
	789	9·5	31·4	−1·0	46·5	0·0		776	10·5	55·6	−0·6	48·1	+0·1
1239	742	10·5	8. 26. 37·1	−1·0	7. 32. 55·6	+0·9	1325	741	10·0	8. 59. 3·8	0·0	8. 1. 6·1	+0·7
	758	10·5	37·8	+0·4	53·9	−0·8		758	10·0	4·0	+0·4	4·3	−1·1
	759	10·5	37·9	+0·6	54·7	0·0		776	10·0	3·5	−0·6	5·9	+0·5
1243	741	9·5	8. 27. 51·4	0·0	9. 1. 1·9	−0·5	1326	754	10·5	8. 59. 58·3	−2·6	7. 38. 60·7	+0·7
	776	9·5	51·5	+0·2	1·8	−0·6		758	10·5	59·5	−0·2	59·4	−0·6
	789	9·5	51·2	−0·5	3·4	+1·0		776	10·5	61·0	+2·8	60·0	0·0
1244	758	10·0	8. 27. 58·0	+0·9	7. 7. 7·0	−0·3	1327	742	10·5	9. 0. 1·0	−0·7	8. 29. 42·8	+1·2
	759	10·0	57·4	−0·2	7·6	+0·3		754	10·5	1·5	+0·4	41·4	−0·2
	789	10·0	57·2	−0·6	7·4	+0·1		796	10·5	1·3	0·0	40·6	−1·0
1247	741	10·5	8. 28. 49·2	−0·2	7. 11. 16·6	+0·1	1334	741	10·5	9. 1. 29·9	0·0	8. 32. 41·7	+0·1
	742	10·5	49·1	−0·4	17·6	+1·1		759	10·0	30·4	+1·1	41·0	−0·6
	776	10·5	49·6	+0·6	15·4	−1·2		796	10·0	29·4	−1·1	42·0	+0·4
1251	742	10·5	8. 32. 15·0	−2·1	8. 45. 61·8	+1·1	1337	742	10·5	9. 3. 4·7	−0·6	7. 8. 6·2	+1·4
	758	10·5	16·7	+1·9	59·5	−1·2		759	10·5	5·2	+0·4	5·8	+1·0
	759	10·5	15·9	0·0	60·7	0·0		796	10·5	5·1	+0·2	2·4	−2·4
1256	741	10·0	8. 33. 17·8	0·0	7. 18. 37·7	−0·1	1338	754	10·5	9. 3. 25·0	−1·7	8. 6. 61·4	+1·2
	776	10·0	18·1	+0·6	36·9	−0·9		758	10·0	26·5	+1·5	59·0	−1·2
	796	10·0	17·6	−0·4	38·7	+0·9		803	10·0	25·8	0·0	60·2	0·0
1257	758	10·0	8. 33. 19·8	+0·6	7. 38. 1·7	−0·9	1341	741	9·5	9. 4. 2·6	0·0	7. 31. 16·9	+0·6
	776	10·0	19·6	+0·2	2·7	+0·1		776	9·0	2·7	+0·2	15·1	−1·2
	789	10·0	19·1	−0·8	3·3	+0·7		803	9·5	2·4	−0·4	16·9	+0·6
1258	758	10·5	8. 33. 33·7	+0·2	8. 43. 40·0	−0·5	1342	742	10·0	9. 4. 23·8	−0·9	7. 6. 45·3	+0·5
	759	10·0	33·8	+0·5	41·1	+0·6		759	10·0	24·7	+0·8	44·9	+0·1
	789	10·0	33·2	−0·9	40·5	0·0		796	10·0	24·5	+0·4	44·1	−0·7
1261	741	9·0	8. 35. 10·8	+0·4	8. 10. 36·0	−0·5	1343	758	10·5	9. 4. 42·3	+0·4	8. 13. 11·2	+0·3
	742	9·0	10·4	−0·4	37·1	+0·6		776	10·5	42·0	−0·2	10·9	0·0
	796	9·0	10·6	0·0	36·3	−0·2		803	10·5	41·9	−0·4	10·5	−0·4
1265	741	10·0	8. 36. 26·6	+0·5	8. 39. 55·6	+0·1	1349	741	9·5	9. 6. 12·4	−0·9	8. 50. 38·6	+0·4
	759	9·5	26·2	−0·5	55·5	0·0		776	9·5	13·2	+0·9	37·9	−0·3
	776	10·0	26·3	−0·2	55·5	0·0		796	9·5	12·8	0·0	38·0	−0·2
1274	741	10·0	8. 40. 32·7	−0·8	7. 28. 34·3	−0·2	1350	754	10·5	9. 6. 24·8	−3·0	8. 43. 15·8	−0·2
	754	10·0	33·4	+0·6	33·6	−0·9		758	10·5	26·6	+1·2	14·9	−1·1
	789	10·0	33·1	0·0	35·7	+1·2		813	10·5	27·0	+2·1	17·4	+1·4
1275	742	10·5	8. 40. 57·5	−1·4	8. 50. 3·3	+1·0	1352	742	10·0	9. 7. 23·0	−0·5	8. 47. 18·6	+0·6
	758	11·0	58·4	+0·7	1·6	−0·7		759	10·0	23·4	+0·5	17·3	−0·7
	776	10·5	58·4	+0·7	2·1	−0·2		776	10·0	23·1	−0·2	18·2	+0·2
1281	742	10·0	8. 43. 25·1	−1·3	8. 7. 48·1	+1·3	1360	741	10·0	9. 9. 32·1	−0·2	7. 17. 17·6	+0·8
	758	10·5	26·3	+1·3	45·5	−1·3		754	10·0	32·1	−0·2	17·1	+0·3
	776	10·0	25·8	+0·2	46·7	−0·1		776	10·0	32·3	+0·2	15·8	−1·0
1283	741	10·5	8. 43. 58·4	−0·4	8. 22. 4·0	+0·3	1362	754	10·5	9. 9. 58·3	+0·2	7. 6. 35·1	−0·3
	754	10·5	58·5	−0·2	2·0	−1·7		758	10·5	58·3	+0·2	35·0	−0·4
	776	10·5	59·0	+0·4	5·2	+1·5		759	10·5	58·1	−0·2	36·2	+0·8
1291	741	9·0	8. 45. 25·1	+0·7	8. 23. 39·8	+0·9	1365	759	10·0	9. 12. 8·4	−0·2	7. 52. 0·8	+0·2
	754	9·0	24·3	−1·1	38·5	−0·4		813	10·0	8·4	−0·2	0·3	−0·3
	776	9·0	24·9	+0·2	38·4	−0·5		815	10·0	8·6	+0·2	0·8	+0·2

1231 on 813. Faint. R.A. bad. Half weight.
1291 N. p. star of a Double. It is Struve 1284.
1343 on 803. Thought to have a companion s. f.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1366	741	10·5	9. 12. 8·9	−0·4	7. 20. 8·1	+1·5
	758	10·5	9·3	+0·4	4·7	−1·9
	776	10·5	9·1	0·0	7·0	+0·4
1368	796	10·5	9. 12. 27·0	−0·6	7. 55. 38·4	−1·4
	803	10·5	27·6	+0·6	39·0	−0·8
	816	10·5	27·3	0·0	42·0	+2·2
1372	776	10·5	9. 12. 59·6	−0·4	7. 47. 4·5	−0·5
	796	10·5	59·9	+0·2	4·0	−1·0
	817	10·0	60·0	+0·4	6·4	+1·4
1373	754	10·5	9. 13. 2·5	+0·6	8. 4. 5·6	+0·4
	803	10·5	1·5	−1·5	5·3	+0·1
	816	10·5	2·7	+0·9	4·8	−0·4
1374	741	10·0	9. 14. 10·6	+0·5	9. 2. 3·0	−0·7
	813	10·0	10·4	0·0	3·8	+0·1
	817	10·0	10·2	−0·5	4·2	+0·5
1375	759	10·5	9. 14. 13·2	+0·5	8. 43. 23·4	+0·3
	803	10·5	13·1	+0·2	22·3	−0·8
	816	10·5	12·7	−0·7	23·6	+0·5
1378	758	10·0	9. 14. 50·8	+0·2	8. 39. 30·0	−0·5
	813	10·0	50·5	−0·5	30·3	−0·2
	815	10·0	50·7	0·0	31·3	+0·8
1380	741	10·5	9. 15. 43·4	−0·7	8. 47. 49·0	+1·1
	803	10·5	43·8	+0·2	48·2	+0·3
	816	10·5	44·0	+0·7	46·5	−1·4
1381	754	5·0	9. 16. 2·3	−0·8	8. 2. 22·5	+0·7
	813	5·0	2·7	0·0	21·1	−0·7
	817	5·0	3·1	+0·8	21·7	−0·1
1382	776	10·5	9. 16. 44·5	+0·8	7. 15. 28·3	−0·6
	796	10·5	43·4	−1·3	27·4	−1·5
	817	10·5	44·3	+0·4	31·1	+2·2
1384	758	10·5	9. 18. 11·7	+0·9	8. 44. 14·9	+0·1
	796	10·5	10·9	−0·9	14·3	−0·5
	803	10·5	11·2	−0·2	15·3	+0·5
1385	754	10·5	9. 18. 18·1	−0·9	8. 15. 46·5	−0·6
	759	10·5	18·2	−0·7	46·8	−0·3
	815	10·5	19·3	+1·7	47·9	+0·8
1386	741	10·0	9. 18. 28·6	−0·2	9. 2. 42·4	+0·1
	796	10·0	28·9	+0·5	41·7	−0·6
	816	10·0	28·7	0·0	42·9	+0·6
1389	776	10·5	9. 20. 48·0	−0·2	8. 5. 54·6	−0·7
	803	10·5	47·9	−0·4	55·1	−0·2
	817	10·5	48·4	+0·6	56·1	+0·8
1390	776	10·5	9. 21. 34·2	−1·4	8. 59. 35·6	−1·9
	816	10·5	35·1	+0·7	37·2	−0·3
	818	10·5	35·1	+0·7	39·7	+2·2
1391	796	10·5	9. 21. 55·8	+0·4	8. 20. 27·8	−0·8
	816	10·5	55·7	+0·2	28·2	−0·4
	817	10·5	55·2	−0·9	29·8	+1·2
1392	815	10·0	9. 22. 4·8	+3·3	7. 47. 6·2	+1·2
	818	10·0	2·2	−2·0	4·3	−0·7
	820	10·0	2·5	−1·4	4·6	−0·4
1394	803	10·0	9. 22. 13·3	−0·9	8. 41. 27·5	−1·0
	815	10·0	14·5	+1·8	29·4	+0·9
	820	9·5	13·4	−0·7	28·5	0·0
1395	759	10·5	9. 22. 15·0	−0·7	8. 52. 53·3	−0·6
	813	10·5	15·7	+0·9	52·9	−1·0
	819	10·5	15·3	0·0	55·5	+1·6
1400	759	10·5	9. 23. 2·0	−1·6	8. 51. 49·9	−1·5
	813	10·5	4·1	+3·3	53·4	+2·0
	819	10·5	1·9	−1·9	50·8	−0·6
1401	796	10·5	9. 23. 17·5	−0·5	8. 41. 24·1	−1·2
	803	10·5	18·2	+1·1	26·9	+1·6
	818	10·5	17·3	−0·9	24·9	−0·4
1404	776	10·0	9. 23. 49·6	−1·8	7. 44. 59·5	−0·8
	815	9·5	52·2	+3·5	60·5	+0·2
	817	10·0	49·8	−1·4	60·9	+0·6
1406	796	10·0	9. 24. 22·4	+0·8	7. 20. 49·8	−0·5
	816	10·5	22·2	+0·4	50·1	−0·2
	819	10·0	21·4	−1·2	51·1	+0·8
1411	776	10·5	9. 27. 5·7	−1·2	8. 41. 20·0	−0·1
	796	10·5	6·5	+0·7	19·3	−0·8
	816	10·5	6·5	+0·7	21·1	+1·0
1421	758	10·0	9. 30. 47·0	−0·4	8. 22. 51·7	+0·4
	796	10·0	47·4	+0·4	51·1	−0·2
	813	10·0	47·2	0·0	51·2	−0·1
1423	759	10·5	9. 31. 54·3	0·0	7. 18. 25·7	+0·5
	803	10·5	54·8	+1·0	25·3	+0·1
	813	10·5	53·9	−0·8	24·6	−0·6
1424	759	10·0	9. 32. 3·5	−0·6	7. 19. 8·3	0·0
	803	10·0	3·9	+0·2	7·9	−0·4
	813	10·5	3·9	+0·2	8·8	+0·5
1425	776	10·5	9. 32. 12·2	+0·8	7. 14. 34·2	+0·4
	796	10·5	11·3	−1·0	33·6	−0·2
	816	10·5	11·9	+0·2	33·7	−0·1
1428	758	10·5	9. 33. 31·5	−0·4	7. 49. 46·3	−0·3
	796	10·5	31·6	−0·2	46·7	+0·1
	813	10·5	32·0	+0·6	46·8	+0·2
1430	759	10·5	9. 34. 33·7	0·0	8. 17. 9·9	0·0
	776	10·5	33·7	0·0	9·7	−0·2
	803	10·5	33·6	−0·2	10·2	+0·3
1432	759	10·0	9. 35. 50·5	0·0	7. 34. 8·7	+0·8
	796	10·0	50·5	0·0	7·5	−0·4
	813	10·5	50·6	+0·2	7·4	−0·5
1433	758	10·5	9. 35. 55·5	−0·8	7. 47. 2·7	+1·2
	776	10·5	56·1	+0·4	0·4	−1·1
	803	10·5	56·0	+0·2	1·3	−0·2
1437	758	10·5	9. 38. 35·2	+0·9	8. 33. 21·3	+0·9
	776	10·5	34·8	0·0	19·7	−0·7
	813	10·5	34·3	−1·1	20·3	−0·1
1438	759	10·5	9. 38. 53·0	+0·7	8. 49. 26·5	+0·6
	796	10·5	52·2	−1·2	25·7	−0·2
	816	10·5	52·8	+0·2	25·4	−0·5
1440	796	10·5	9. 39. 13·7	−1·3	8. 12. 40·3	−0·9
	803	10·0	14·5	+0·4	41·7	+0·5
	813	10·5	14·7	+0·9	41·7	+0·5
1444	759	9·0	9. 41. 2·6	0·0	8. 56. 18·9	+0·1
	803	9·0	2·6	0·0	18·8	0·0
	815	9·0	2·6	0·0	18·6	−0·2
1447	759	10·0	9. 42. 45·1	+0·7	8. 54. 38·5	−0·1
	796	10·0	44·9	+0·2	37·8	−0·8
	815	10·0	44·5	−0·7	39·4	+0·8
1448	758	10·5	9. 42. 54·3	−0·2	8. 36. 26·5	+0·3
	776	10·5	54·2	−0·5	25·9	−0·3
	803	10·5	54·6	+0·5	26·1	−0·1
1450	776	10·5	9. 43 56·3	+0·2	7. 47. 13·7	+0·1
	813	10·5	55·6	−1·2	13·8	+0·2
	816	10·5	56·8	+1·2	13·3	−0·3
1454	776	10·5	9. 45. 14·7	−0·2	7. 39. 22·3	−0·3
	803	10·5	14·8	0·0	23·2	+0·6
	813	10·5	14·8	0·0	22·2	−0·4
1461	776	10·5	9. 47. 45·1	−1·1	8. 36. 45·7	+0·1
	803	10·0	45·6	0·0	45·3	−0·3
	813	10·5	46·1	+1·1	45·7	+0·1
1462	776	10·5	9. 47. 49·6	+0·2	8. 36. 45·7	+0·1
	803	10·0	49·4	−0·2	45·3	−0·3
	813	10·5	49·6	+0·2	45·7	+0·1
1466	759	10·5	9. 50. 48·1	−1·1	8. 29. 3·5	+0·2
	803	10·5	48·5	−0·2	2·8	−0·5
	813	10·5	49·2	+1·3	3·5	+0·2
1469	758	10·0	9. 51. 47·0	+0·2	8. 57. 1·4	−0·7
	803	10·5	46·6	−0·7	1·9	−0·2
	815	10·0	47·0	+0·2	3·0	+0·9
1471	776	10·5	9. 52. 38·3	+0·2	7. 12. 58·5	−1·4
	796	10·5	38·2	0·0	60·1	+0·2
	813	10·5	38·2	0·0	61·0	+1·1
1481	758	10·5	9. 56. 14·8	0·0	8. 0. 2·8	−0·7
	776	10·5	14·7	−0·2	3·1	−0·4
	813	10·5	15·0	+0·4	4·6	+1·1
1483	759	10·0	9. 56. 57·8	0·0	8. 30. 43·3	−0·4
	803	10·0	57·6	−0·4	43·2	−0·5
	815	10·0	58·1	+0·7	44·6	+0·9
1484	796	10·5	9. 57. 10·9	+0·2	7. 48. 57·8	+0·5
	803	10·5	10·4	−0·8	58·1	+0·8
	816	10·5	11·0	+0·4	56·0	−1·3
1485	776	10·5	9. 57. 17·3	−0·2	7. 27. 49·3	−1·2
	796	10·5	16·9	−1·0	52·1	+1·6
	815	10·5	17·9	+1·0	50·0	−0·5
1488	758	10·5	9. 58. 45·6	+1·1	8. 0. 9·9	+0·2
	776	10·5	44·8	−0·6	8·1	−1·6
	813	10·5	45·0	−0·2	11·1	+1·4
1489	759	10·5	9. 59. 7·5	−0·4	8. 21. 47·7	−2·0
	803	10·5	7·7	0·0	50·3	+0·6
	816	10·5	7·9	+0·4	51·2	+1·5
1491	796	10·0	9. 59. 54·8	+1·2	8. 45. 54·6	−0·7
	813	10·0	53·8	−1·2	55·3	0·0
	815	10·0	54·2	−0·2	56·1	+0·8
1495	776	10·5	10. 0. 58·2	+2·2	8. 12. 27·7	−0·9
	813	10·5	55·7	−3·2	30·5	+1·9
	816	10·5	57·8	+1·3	27·6	−1·0
1498	796	10·5	10. 2. 29·4	+0·4	7. 25. 44·9	−0·3
	803	10·5	28·8	−0·8	45·1	−0·1
	816	10·5	29·3	+0·2	45·7	+0·5

1461 and 1462. Nearly on the same parallel. Perhaps the second star is a little more North.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1502	758	10·5	10. 3. 16·2	−0·2	8. 55. 30·5	−0·3
	803	10·5	16·3	0·0	31·9	+1·1
	815	10·5	16·4	+0·2	30·1	−0·7
1506	776	10·5	10. 5. 48·8	0·0	7. 29. 35·4	−0·8
	803	10·5	48·7	−0·2	36·4	+0·2
	815	10·5	48·9	+0·2	36·7	+0·5
1507	758	10·5	10. 5. 53·0	+1·1	8. 15. 8·7	0·0
	796	10·5	53·4	+2·0	8·2	−0·5
	813	10·5	51·1	−3·0	9·1	+0·4
1512	758	10·5	10. 6. 54·1	−2·4	7. 8. 61·6	+1·2
	796	10·5	56·3	+1·7	58·9	−1·5
	816	10·5	55·7	+0·6	60·7	+0·3
1520	776	10·0	10. 8. 32·2	+0·4	7. 53. 7·7	+0·5
	813	10·0	31·9	−0·2	7·0	−0·2
	818	10·0	31·8	−0·4	6·8	−0·4
1524	796	9·0	10. 9. 4·0	+1·6	7. 45. 50·4	−1·7
	815	9·0	2·9	−0·6	53·3	+1·2
	819	9·0	2·6	−1·2	52·6	+0·5
1525	776	9·5	10. 9. 23·4	+0·4	7. 59. 51·9	−0·1
	815	9·5	22·8	−0·8	51·7	−0·3
	819	9·5	23·3	+0·2	52·5	+0·5
1527	758	10·5	10. 9. 53·0	−1·4	8. 55. 19·0	−1·1
	803	10·5	53·9	+0·7	19·8	−0·3
	816	10·5	53·8	+0·5	21·6	+1·5
1528	813	10·5	10. 9. 55·6	+0·9	8. 35. 12·6	−0·7
	816	10·5	54·7	−1·1	13·0	−0·3
	818	10·5	55·3	+0·2	14·4	+1·1
1530	803	10·5	10. 10. 14·5	−0·7	8. 31. 29·8	+0·3
	815	10·5	14·8	0·0	29·2	−0·3
	818	10·0	15·1	+0·7	29·5	0·0
1536	758	9·0	10. 11. 48·1	−0·6	8. 4. 49·3	−0·2
	796	9·0	48·8	+0·9	49·4	−0·1
	813	9·0	48·4	0·0	49·9	+0·4
1539	758	10·5	10. 13. 18·6	−0·5	8. 32. 37·9	−0·1
	776	10·5	18·7	−0·2	37·8	−0·2
	816	10·5	19·0	+0·5	38·3	+0·3
1541	776	10·0	10. 13. 44·4	−1·4	7. 35. 33·0	−0·6
	815	10·5	45·1	0·0	34·1	+0·5
	818	10·5	45·7	+1·2	33·7	+0·1
1544	796	10·0	10. 14. 53·7	0·0	8. 15. 18·3	−0·6
	803	10·0	53·6	−0·2	19·8	+0·9
	818	10·0	53·9	+0·4	18·7	−0·2
1545	758	10·0	10. 15. 1·1	0·0	7. 16. 51·3	−1·4
	815	10·0	1·3	+0·4	53·1	+0·4
	819	10·0	0·9	−0·4	53·8	+1·1
1547	776	10·0	10. 15. 23·8	+0·4	7. 39. 9·6	−0·1
	803	10·0	23·2	−0·8	10·5	+0·8
	813	10·0	23·8	+0·4	8·9	−0·8
1550	815	10·5	10. 16. 36·8	−0·7	8. 20. 53·5	+0·2
	816	10·0	37·4	+0·7	52·1	−1·2
	819	10·0	37·2	+0·2	54·2	+0·9
1552	796	10·5	10. 16. 43·6	+1·0	7. 54. 15·8	+0·3
	816	10·5	42·5	−1·2	14·8	−0·7
	818	10·5	43·3	+0·4	15·8	+0·3
1556	758	9·0	10. 17. 51·4	−0·2	7. 14. 2·3	−0·5
	803	9·0	51·3	−0·4	4·0	+1·2
	813	9·0	51·9	+0·8	2·1	−0·7
1557	776	10·5	10. 18. 40·1	0·0	8. 8. 50·0	−1·0
	796	10·5	39·9	−0·4	52·5	+1·5
	815	10·5	40·2	+0·2	50·6	−0·4
1558	758	8·0	10. 20. 48·7	−1·2	8. 45. 39·7	+0·2
	796	8·0	49·4	+0·5	39·2	−0·3
	816	7·0	49·4	+0·5	39·7	+0·2
1562	776	8·0	10. 22. 24·1	0·0	7. 40. 7·6	−0·6
	803	8·0	23·8	−0·6	8·7	+0·5
	815	8·0	24·5	+0·8	8·2	0·0
1563	758	10·0	10. 22. 44·7	−0·2	8. 12. 22·9	+0·2
	796	10·0	44·8	0·0	22·9	+0·2
	813	10·0	45·0	+0·4	22·3	−0·4
1564	758	10·5	10. 23. 27·9	−1·2	7. 47. 54·6	−0·3
	796	10·5	29·2	+1·4	56·1	+1·2
	813	10·5	28·3	−0·4	53·9	−1·0
1567	776	10·0	10. 23. 57·1	−0·2	7. 19. 4·9	−1·1
	803	10·0	56·9	−0·6	6·4	+0·4
	815	10·0	57·7	+1·0	6·7	+0·7
1572	776	10·0	10. 25. 41·7	+0·4	8. 6. 34·5	−0·6
	803	10·0	41·3	−0·4	35·0	−0·1
	815	10·5	41·6	+0·2	35·7	+0·6
1573	776	10·0	10. 26. 14·7	−0·7	8. 14. 2·1	−0·6
	813	10·0	15·2	+0·4	3·4	+0·7
	816	10·0	15·1	+0·2	2·7	0·0
1574	758	10·5	10. 26. 20·5	+1·2	7. 51. 39·1	+0·9
	796	10·5	19·3	−1·2	37·4	−0·8
	816	10·5	20·0	+0·2	38·2	0·0
1577	803	9·5	10. 27. 21·0	−1·1	8. 0. 39·7	0·0
	815	9·5	21·6	+0·2	39·8	+0·1
	818	9·0	21·9	+0·8	39·6	−0·1
1578	803	10·0	10. 28. 25·2	+0·4	7. 40. 41·1	−0·2
	816	10·0	25·1	+0·2	41·1	−0·2
	819	10·0	24·7	−0·6	41·6	+0·3
1579	776	10·0	10. 28. 51·9	+0·2	8. 24. 32·1	−0·3
	815	10·5	51·8	0·0	32·3	−0·1
	818	10·0	51·7	−0·2	32·8	+0·4
1580	813	7·0	10. 28. 55·4	+0·2	8. 49. 6·9	−0·6
	819	8·0	56·2	+2·1	8·5	+1·0
	820	7·0	55·3	−2·3	7·1	−0·4
1586	776	10·0	10. 33. 34·1	−0·2	8. 56. 30·7	−0·5
	803	10·0	34·2	0·0	31·5	+0·3
	815	10·0	34·4	+0·5	31·4	+0·2
1591	776	10·5	10. 35. 52·8	0·0	7. 22. 45·1	−0·4
	813	10·5	52·7	−0·2	45·4	−0·1
	818	10·5	53·0	+0·4	46·0	+0·5
1593	818	10·5	10. 36. 6·0	−0·2	7. 32. 15·3	+0·7
	836	10·5	6·2	+0·2	13·8	−0·8
1596	796	10·5	10. 36. 59·0	+0·2	7. 54. 46·7	−0·9
	816	10·5	58·9	0·0	47·4	−0·2
	820	10·5	58·7	−0·4	48·8	+1·2
1598	796	10·5	10. 37. 34·7	+0·9	8. 40. 35·4	+0·6
	816	10·5	34·2	−0·2	34·4	−0·4
	819	10·5	33·9	−0·9	34·5	−0·3
1601	803	10·5	10. 38. 16·2	−0·2	7. 36. 14·5	−0·5
	813	10·5	15·8	−1·0	14·5	−0·5
	818	10·5	16·5	+0·4	15·1	+0·1
	820	10·5	16·5	+0·4	15·9	+0·9
1602	803	10·0	10. 38. 37·5	−1·4	8. 38. 47·8	+0·1
	815	10·0	38·9	+1·8	48·3	+0·6
	819	10·0	37·8	−0·7	46·9	−0·8
1603	776	10·5	10. 39. 14·0	−1·1	8. 33. 52·9	−0·7
	816	10·5	14·4	−0·2	54·3	+0·7
	836	10·5	15·1	+1·4	53·7	+0·1
1604	796	10·5	10. 40. 16·2	+0·6	7. 23. 9·0	−1·1
	803	10·5	15·9	0·0	11·1	+1·0
	818	10·5	15·7	−0·4	10·3	+0·2
1606	776	9·0	10. 41. 14·9	−0·9	8. 52. 37·6	+0·5
	813	9·5	15·5	+0·5	36·6	−0·5
	815	9·5	15·4	+0·2	37·1	0·0
1607	776	9·0	10. 42. 18·4	−1·7	9. 1. 38·8	−0·5
	813	9·0	19·5	+1·0	40·1	+0·8
	820	9·5	19·3	+0·5	39·1	−0·2
1609	776	10·5	10. 42. 25·8	−0·2	9. 0. 54·8	−0·2
	813	10·5	26·1	+0·5	54·3	−0·7
	820	10·5	25·9	0·0	56·0	+1·0
1610	796	10·5	10. 42. 53·2	−0·2	8. 41. 50·8	−0·6
	816	10·5	53·1	−0·5	52·1	+0·7
	819	10·5	53·6	+0·7	51·9	+0·5
	836	10·0	53·3	0·0	50·9	−0·5
1611	796	10·5	10. 43. 26·1	+1·9	8. 10. 35·2	+0·2
	803	10·5	24·6	−1·3	35·3	+0·3
	818	10·5	24·9	−0·6	34·5	−0·5
1614	816	11·0	10. 45. 39·4	0·0	8. 44. 16·2	−0·1
	818	11·0	39·4	0·0	16·4	+0·1
1616	803	9·5	10. 46. 27·1	−0·7	9. 2. 48·1	−0·2
	815	10·0	27·2	−0·5	48·6	+0·3
	820	9·5	27·8	+1·0	48·3	0·0
1621	816	11·0	10. 46. 56·5	+1·6	7. 22. 58·6	−1·0
	820	10·5	54·9	−1·6	60·6	+1·0
1622	796	10·0	10. 47. 2·6	+1·3	7. 57. 55·6	−0·4
	813	10·0	2·0	0·0	55·7	−0·3
	819	10·0	1·4	−1·3	56·7	+0·7
1623	803	10·0	10. 47. 20·9	+0·4	7. 2. 59·8	+0·2
	815	10·0	21·0	+0·6	59·9	+0·3
	819	10·0	20·2	−0·9	59·1	−0·5
1628	776	10·0	10. 48. 17·6	−0·8	7. 32. 40·2	+0·1
	813	10·0	18·1	+0·2	39·8	−0·3
	818	10·0	18·2	+0·4	40·4	+0·3
1635	776	10·5	10. 51. 36·5	−1·1	8. 10. 2·4	+0·4
	816	10·5	37·0	0·0	2·0	0·0
	818	10·5	37·5	+1·1	1·7	−0·3
1637	776	10·0	10. 52. 29·1	+0·2	8. 10. 46·6	−0·2
	813	10·0	28·9	−0·2	46·3	−0·5
	818	9·0	29·0	0·0	47·5	+0·7

1547. Close Double. Observed as a single star.
1577. Has a faint companion n. p.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1640	776	10·5	10. 53. 42·8	+0·8	7. 13. 33·1	−0·7
	816	10·5	42·5	+0·2	33·5	−0·3
	819	10·5	42·0	−0·8	34·9	+1·1
1642	803	10·5	10. 54. 20·2	+0·8	7. 24. 43·6	+0·8
	816	10·5	19·6	−0·4	42·5	−0·3
	818	10·5	19·6	−0·4	42·4	−0·4
1646	776	10·0	10. 56. 27·2	+0·2	8. 46. 42·5	−1·5
	803	10·0	27·1	0·0	45·9	+1·9
	813	10·0	27·0	−0·2	43·5	−0·5
1651	776	8·0	10. 58. 0·5	0·0	7. 28. 36·7	−0·7
	813	8·0	0·3	−0·4	37·7	+0·3
	815	8·0	0·6	+0·2	37·8	+0·4
1652	796	9·0	10. 58. 33·6	+1·1	8. 15. 59·0	−0·3
	803	8·0	32·9	−0·4	58·9	−0·4
	816	9·0	32·9	−0·4	60·1	+0·8
1658	796	10·5	11. 1. 0·8	−1·0	7. 49. 30·9	+1·0
	813	10·5	1·3	0·0	27·8	−2·1
	816	10·5	1·8	+1·0	30·9	+1·0
1659	776	10·5	11. 1. 11·0	−0·7	8. 41. 54·2	+1·0
	816	10·5	11·9	+1·4	52·6	−0·6
	818	10·5	11·1	−0·5	52·7	−0·5
1663	796	10·0	11. 3. 0·8	0·0	8. 29. 33·0	+0·8
	813	10·0	0·4	−0·9	31·3	−0·9
	815	10·0	1·3	+1·1	32·4	+0·2
1664	803	10·5	11. 3. 35·3	+0·2	8. 4. 16·2	+0·6
	813	10·5	35·6	+0·8	14·3	−1·3
	815	10·5	34·7	−1·0	16·2	+0·6
1671	796	9·0	11. 7. 27·4	−0·2	8. 13. 59·9	+0·4
	803	9·0	27·0	−1·1	59·2	−0·3
	813	9·0	27·7	+0·4	59·2	−0·3
	815	9·0	27·7	+0·4	59·6	+0·1
1672	796	11·0	11. 8. 1·6	−1·8	7. 30. 32·7	−0·6
	803	11·0	2·3	−0·4	34·3	+1·0
	816	10·5	3·5	+2·0	32·9	−0·4
1681	796	10·5	11. 11. 8·7	−0·4	7. 18. 25·5	+0·5
	803	10·5	8·8	−0·2	24·6	−0·4
	816	10·5	9·3	+0·8	24·8	−0·2
1685	803	10·5	11. 12. 40·3	−2·1	8. 38. 48·8	−0·2
	813	10·5	41·6	+0·9	49·1	+0·1
	815	10·5	41·7	+1·1	49·2	+0·2
1688	796	10·5	11. 14. 5·0	−0·4	7. 39. 0·9	+0·1
	813	10·5	5·6	+0·8	0·8	0·0
	816	10·5	5·1	−0·2	0·6	−0·2
1689	803	10·5	11. 14. 27·4	0·0	8. 21. 31·8	+0·5
	815	10·5	27·5	+0·2	31·0	−0·3
	816	10·5	27·2	−0·4	31·1	−0·2
1690	796	10·5	11. 15. 38·0	−1·2	7. 51. 53·3	−1·2
	815	10·5	38·8	+0·4	56·0	+1·5
	816	10·5	38·9	+0·6	54·3	−0·2
1691	803	10·0	11. 16. 3·0	−1·1	8. 39. 12·6	+0·6
	813	10·0	3·5	0·0	11·9	−0·1
	818	10·0	3·9	+0·9	11·5	−0·5
1695	796	10·0	11. 19. 18·9	−0·6	7. 6. 16·1	−0·1
	813	9·5	19·3	+0·2	16·1	−0·1
	815	10·0	19·3	+0·2	16·3	+0·1
1696	803	10·5	11. 19. 28·0	−0·6	8. 9. 42·6	−0·7
	816	10·5	28·2	−0·2	42·6	−0·7
	820	10·5	28·6	+0·6	44·8	+1·5
1698	803	10·0	11. 19. 34·4	−0·4	8. 9. 56·7	0·0
	816	10·0	34·6	0·0	56·3	−0·4
	820	10·0	34·8	+0·4	57·1	+0·4
1703	796	10·5	11. 20. 33·7	−0·2	7. 18. 28·8	+1·0
	818	10·5	34·2	+0·8	27·2	−0·6
	819	10·5	33·6	−0·4	27·4	−0·4
1706	813	10·5	11. 21. 14·3	+0·2	8. 53. 29·3	+0·4
	816	10·5	14·2	0·0	28·1	−0·8
	819	10·5	14·0	−0·5	29·3	+0·4
1707	813	6·0	11. 21. 26·3	−0·2	8. 4. 29·7	−0·2
	815	6·0	26·3	−0·2	30·0	+0·1
	821	6·0	26·5	+0·2	29·9	0·0
1708	815	10·5	11. 22. 1·0	−2·1	7. 49. 40·4	−0·8
	818	10·5	2·9	+1·9	40·5	−0·7
	820	10·5	2·0	0·0	42·7	+1·5
1710	796	10·5	11. 22. 24·6	−0·9	7. 8. 30·5	−0·1
	818	10·5	25·1	0·0	30·5	−0·1
	821	10·5	25·7	+1·1	30·9	+0·3
1714	816	10·5	11. 24. 4·6	−0·4	7. 31. 21·3	+1·4
	819	10·5	4·5	−0·6	19·2	−0·7
	820	10·5	5·4	+1·2	19·3	−0·6
1716	796	10·5	11. 24. 41·4	−1·2	8. 54. 38·8	−0·9
	816	10·5	41·7	−0·5	39·8	+0·1
	836	10·5	42·7	+1·9	40·5	+0·8
1717	803	10·0	11. 24. 43·1	−0·2	8. 22. 52·1	+0·1
	813	10·0	43·6	+0·9	52·3	+0·3
	821	10·0	43·0	−0·4	51·7	−0·3
1719	815	10·0	11. 25. 52·3	0·0	7. 54. 56·0	+0·4
	818	10·5	52·5	+0·4	54·9	−0·7
	820	10·0	52·1	−0·4	55·9	+0·3
1720	796	10·0	11. 25. 55·5	+1·2	8. 54. 34·9	+0·1
	816	10·0	54·4	−1·4	34·7	−0·1
	836	10·0	55·0	0·0	34·7	−0·1
1721	815	10·0	11. 26. 8·4	+0·6	7. 54. 6·3	0·0
	818	10·0	8·0	−0·2	6·7	+0·4
	820	10·0	7·9	−0·4	5·9	−0·4
1723	796	10·5	11. 27. 53·5	+0·6	7. 51. 8·7	+3·0
	818	10·5	54·5	+2·7	5·8	+0·1
	839	10·5	51·5	−3·5	2·7	−3·0
1724	813	10·5	11. 28. 9·6	+1·8	8. 21. 9·1	+0·1
	819	10·5	8·4	−0·9	9·5	+0·5
	821	10·5	8·5	−0·7	8·5	−0·5
1725	816	10·5	11. 28. 53·4	−1·6	8. 43. 44·2	+1·1
	820	10·5	54·8	+1·6	42·0	−1·1
	836	10·5	54·0	−0·2	43·1	0·0
1726	803	10·0	11. 29. 3·8	+0·2	7. 19. 46·3	+0·6
	819	10·0	3·5	−0·4	45·3	−0·4
	839	10·0	3·8	+0·2	45·6	−0·1
1727	815	10·5	11. 29. 8·0	−0·6	7. 35. 60·5	+0·3
	818	10·5	8·5	+0·4	59·9	−0·3
	841	10·0	8·4	+0·2	60·3	+0·1
1728	813	10·0	11. 29. 11·7	0·0	8. 27. 12·7	−0·5
	821	10·0	11·7	0·0	14·1	+0·9
	841	10·0	11·7	0·0	12·8	−0·4
1731	815	9·0	11. 29. 58·5	−0·4	7. 6. 51·9	−0·1
	821	9·0	58·9	+0·4	51·9	−0·1
	839	9·0	58·7	0·0	52·3	+0·3
1732	796	10·0	11. 30. 26·4	−1·5	8. 5. 57·9	−1·1
	820	10·0	27·7	+1·3	59·9	+0·9
	836	10·0	27·3	+0·4	59·2	+0·2
1733	813	10·0	11. 30. 45·0	+0·7	8. 52. 0·9	−0·5
	816	10·0	44·7	0·0	1·9	+0·5
	840	10·0	44·4	−0·7	(13·5)	—
1734	796	10·5	11. 30. 55·9	−0·5	8. 57. 44·1	+1·0
	818	10·5	56·1	0·0	43·0	−0·1
	820	10·5	56·2	+0·2	42·3	−0·8
1736	803	10·5	11. 31. 14·0	+0·9	8. 39. 38·6	+0·2
	816	10·5	12·9	−1·6	37·6	−0·8
	836	10·5	13·8	+0·5	39·1	+0·7
1741	803	10·0	11. 32. 53·9	+0·2	8. 36. 54·3	+0·1
	816	9·5	53·6	−0·5	54·1	−0·1
	820	10·0	53·8	0·0	54·2	0·0
1742	796	10·0	11. 33. 41·0	0·0	7. 41. 35·7	−0·8
	815	10·0	41·1	+0·2	36·6	+0·1
	819	10·0	40·9	−0·2	37·1	+0·6
1744	813	10·5	11. 34. 13·7	+1·2	7. 25. 19·8	−1·5
	815	10·5	13·3	+0·4	21·9	+0·6
	818	10·5	12·3	−1·6	22·2	+0·9
1750	803	10·5	11. 37. 11·6	+0·4	8. 8. 6·5	+0·5
	815	10·5	11·3	−0·2	6·8	+0·8
	816	10·0	11·4	0·0	4·7	−1·3
1753	803	10·5	11. 38. 7·2	−0·4	7. 22. 13·4	+0·1
	816	10·5	7·3	−0·2	13·2	−0·1
	818	10·5	7·6	+0·4	13·3	0·0
1754	796	10·5	11. 38. 17·4	−1·6	7. 30. 41·1	−0·2
	813	10·5	18·7	+1·0	41·4	+0·1
	818	10·5	18·6	+0·8	41·5	+0·2
1755	813	10·0	11. 39. 2·1	−1·7	9. 0. 34·9	+0·4
	815	10·0	2·9	+0·2	33·6	−0·9
	816	10·0	3·3	+1·2	35·1	+0·6
1760	803	10·5	11. 42. 1·3	−0·4	8. 31. 11·9	+0·5
	813	10·5	1·5	0·0	10·3	−1·1
	815	10·5	1·7	+0·4	11·9	+0·5
1765	796	10·0	11. 45. 1·7	−0·2	7. 13. 12·5	+0·6
	803	10·0	1·8	0·0	11·7	−0·2
	815	10·0	2·0	+0·4	11·5	−0·4
1768	796	10·0	11. 45. 43·1	−0·6	7. 15. 22·5	0·0
	803	10·0	43·4	0·0	21·6	−0·9
	815	10·0	43·8	+0·8	23·3	+0·8
1769	796	10·0	11. 47. 9·9	−0·6	8. 12. 0·4	−0·8
	813	10·0	10·4	+0·4	0·8	−0·4
	816	10·0	10·2	0·0	2·3	+1·1
1770	803	10·5	11. 48. 38·3	−0·6	7. 24. 15·1	−0·2
	816	10·5	38·2	−0·8	15·6	+0·3
	818	10·5	39·2	+1·2	15·3	0·0

1723. The discordance in N.P.D. is attributable to the faintness of the star.
1733 on 840. Either not bisected, or an error of 10″ in circle-reading. N.P.D. rejected.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1772	796	10·0	11. 49. 59·4	−1·5	7. 55. 41·3	+0·4
	815	10·0	60·4	+0·6	40·9	0·0
	820	10·0	60·4	+0·6	40·5	−0·4
1774	803	9·0	11. 50. 13·5	−0·6	8. 33. 30·7	−0·8
	815	9·0	14·0	+0·4	31·0	−0·5
	819	9·0	13·8	0·0	32·9	+1·4
1775	816	10·5	11. 50. 18·9	0·0	7. 27. 32·6	−1·4
	818	11·0	18·8	−0·2	34·3	+0·3
	820	10·5	19·1	+0·4	35·0	+1·0
1782	803	10·5	11. 51. 53·8	−0·4	7. 10. 51·1	+1·1
	816	10·5	53·7	−0·6	48·6	−1·4
	818	10·5	54·4	+0·8	50·4	+0·4
1783	796	10·5	11. 51. 59·7	0·0	7. 47. 36·5	−0·1
	813	10·5	60·3	+1·2	37·7	+1·1
	819	10·5	59·0	−1·4	35·6	−1·0
1784	813	7·0	11. 52. 38·7	+0·4	8. 20. 14·8	−1·0
	815	7·0	38·5	0·0	15·8	0·0
	820	7·0	38·2	−0·7	16·7	+0·9
1788	796	10·5	11. 54. 30·2	+0·2	8. 43. 49·6	−0·2
	816	10·5	30·5	+0·9	50·0	+0·2
	818	10·5	29·6	−1·2	49·8	0·0
1791	796	8·0	11. 55. 52·4	−1·4	7. 30. 13·6	−1·2
	815	8·0	53·5	+0·8	15·8	+1·0
	819	8·0	53·4	+0·6	15·1	+0·3
1796	796	10·5	11. 58. 31·7	−1·6	8. 53. 6·0	−0·2
	818	10·5	33·0	+1·4	6·7	+0·5
	819	10·5	32·4	0·0	5·8	−0·4
1797	815	10·0	11. 59. 25·4	+1·1	8. 22. 33·3	+0·7
	816	10·0	24·7	−0·4	31·4	−1·2
	820	10·0	24·5	−0·9	33·0	+0·4
1799	803	10·5	12. 0. 35·1	−0·9	8. 27. 2·4	−0·3
	818	10·5	35·5	0·0	3·7	+1·0
	819	10·5	36·0	+1·1	1·9	−0·8
1800	796	10·0	12. 1. 0·2	−1·0	9. 3. 24·4	+0·6
	815	10·5	1·1	+1·2	22·9	−0·9
	818	10·0	0·5	−0·2	24·2	+0·4
1804	803	11·0	12. 3. 2·9	−0·9	8. 40. 43·1	−0·4
	816	10·5	3·2	−0·2	43·7	+0·2
	818	10·5	3·9	+1·4	43·7	+0·2
1807	796	6·0	12. 4. 23·5	+0·2	7. 28. 58·6	+0·6
	813	6·0	22·6	−1·6	57·0	−1·0
	815	6·0	24·0	+1·2	58·4	+0·4
1810	796	10·0	12. 4. 55·3	−0·6	7. 28. 43·3	0·0
	813	10·0	55·7	+0·2	43·3	0·0
	815	10·0	55·9	+0·6	43·3	0·0
1811	816	10·5	12. 4. 56·0	−0·2	7. 45. 17·0	+0·3
	818	10·5	56·6	+1·0	16·2	−0·5
	819	10·5	55·8	−0·6	17·0	+0·3
1819	803	10·5	12. 6. 50·9	0·0	7. 33. 39·3	+1·1
	815	10·5	51·6	+1·4	37·1	−1·1
	820	10·5	50·1	−1·6	38·2	0·0
1823	803	10·5	12. 9. 8·6	−1·0	7. 51. 36·1	−0·3
	816	10·0	9·3	+0·4	36·4	0·0
	818	10·0	9·5	+0·8	36·7	+0·3
1824	815	9·5	12. 9. 47·3	−0·5	9. 4. 16·8	−0·4
	818	9·0	47·8	+0·7	16·9	−0·3
	819	9·0	47·4	−0·2	17·8	+0·6
1825	815	9·0	12. 9. 51·8	+0·7	9. 4. 5·9	−0·5
	818	9·0	51·4	−0·2	6·1	−0·3
	819	9·0	51·4	−0·2	7·2	+0·8
1828	796	10·5	12. 11. 35·4	+0·9	8. 25. 0·2	−0·7
	803	10·5	34·9	−0·2	1·6	+0·7
	816	10·5	34·7	−0·7	0·9	0·0
1835	803	10·0	12. 14. 38·5	0·0	8. 58. 30·6	+0·2
	815	10·0	38·8	+0·7	29·5	−0·9
	816	10·0	38·3	−0·5	31·2	+0·8
1838	796	10·0	12. 15. 32·3	+0·4	7. 58. 43·5	+0·3
	803	10·0	31·9	−0·4	43·3	+0·1
	815	10·0	32·1	0·0	42·9	−0·3
1845	796	10·0	12. 18. 42·1	+0·4	8. 22. 10·0	−0·3
	815	10·0	41·9	0·0	10·7	+0·4
	816	10·0	41·7	−0·4	10·2	−0·1
1850	803	10·5	12. 19. 34·0	−1·2	7. 25. 41·0	−0·9
	816	10·5	35·3	+1·4	42·4	+0·5
	818	10·5	34·6	0·0	42·3	+0·4
1854	796	10·0	12. 21. 40·9	0·0	7. 43. 21·8	+0·5
	803	10·0	40·8	−0·2	21·7	+0·4
	815	10·0	40·9	0·0	20·5	−0·8
1858	815	10·5	12. 23. 39·0	−0·2	7. 30. 33·9	−1·3
	816	10·5	39·5	+0·8	35·8	+0·6
	817	10·5	38·9	−0·4	35·8	+0·6
1859	796	9·5	12. 23. 47·1	0·0	7. 12. 5·2	−0·4
	815	9·0	47·1	0·0	5·6	0·0
	818	9·0	47·2	+0·2	6·1	+0·5
1860	818	10·5	12. 23. 50·1	−0·8	7. 50. 5·3	−0·1
	819	10·5	51·2	+1·4	4·4	−1·0
	820	10·5	50·2	−0·6	6·5	+1·1
1861	803	10·5	12. 24. 41·3	−0·5	8. 44. 59·9	0·0
	817	10·5	41·4	−0·2	60·5	+0·6
	819	10·5	41·8	+0·7	59·3	−0·6
1864	816	11·0	12. 25. 29·4	+1·4	7. 32. 23·5	+1·4
	817	10·5	28·5	−0·4	21·0	−1·1
	818	10·5	28·2	−1·0	21·8	−0·3
1866	803	9·0	12. 28. 48·3	+0·7	8. 15. 15·7	+0·3
	815	9·0	47·7	−0·7	14·3	−1·1
	817	9·0	47·9	−0·2	16·1	+0·7
1868	803	9·0	12. 29. 40·4	−1·4	8. 56. 57·4	0·0
	816	8·0	41·5	+1·2	57·2	−0·2
	817	9·0	41·1	+0·2	57·5	+0·1
1869	796	10·5	12. 29. 57·2	+0·2	7. 16. 5·5	+0·4
	815	10·0	57·1	0·0	4·9	−0·2
	816	10·0	57·1	0·0	4·9	−0·2
1870	796	10·0	12. 30. 38·1	0·0	7. 42. 28·9	−0·1
	803	10·0	37·9	−0·4	29·4	+0·4
	815	10·5	38·3	+0·4	28·6	−0·4
1879	796	10·5	12. 35. 54·1	0·0	7. 57. 55·2	+0·9
	815	10·5	54·6	+1·1	53·2	−1·1
	816	10·5	53·7	−0·8	54·4	+0·1
1886	803	10·5	12. 39. 1·9	+0·6	7. 26. 25·0	−0·6
	816	10·5	1·4	−0·4	25·2	−0·4
	817	10·5	1·6	0·0	26·7	+1·1
1889	815	8·0	12. 40. 45·6	−0·7	8. 35. 0·1	−0·3
	818	8·0	45·9	0·0	0·9	+0·5
	819	8·0	46·1	+0·5	0·1	−0·3
1891	803	10·0	12. 41. 5·3	−0·6	7. 30. 53·4	+0·3
	817	10·0	5·9	+0·6	52·3	−0·8
	819	10·0	5·6	0·0	53·5	+0·4
1893	816	10·5	12. 41. 30·3	+0·2	8. 43. 15·7	+0·2
	818	10·5	30·1	−0·2	15·4	−0·1
	820	10·5	30·1	−0·2	15·3	−0·2
1895	816	10·5	12. 42. 20·3	+0·9	8. 47. 12·8	+1·6
	818	10·5	19·5	−0·9	11·7	+0·5
	820	10·5	19·8	−0·2	9·2	−2·0
1897	803	10·5	12. 42. 45·7	−0·4	7. 35. 31·6	−0·7
	820	10·5	45·2	−1·4	32·4	+0·1
	839	10·5	46·8	+1·8	32·8	+0·5
1901	815	10·5	12. 43. 50·2	+1·1	8. 4. 21·9	−1·0
	821	10·5	49·9	+0·4	22·9	0·0
	840	10·5	49·1	−1·3	25·0	+2·1
1902	803	9·5	12. 44. 14·6	−0·6	7. 30. 16·4	0·0
	819	10·0	14·8	−0·2	16·6	+0·2
	842	9·5	15·4	+1·0	16·1	−0·3
1903	818	10·5	12. 44. 27·5	—	8. 21. 19·3	—
1904	815	10·5	12. 44. 30·1	+0·6	7. 56. 32·0	−0·6
	821	10·5	29·6	−0·4	32·2	−0·4
	841	10·0	29·7	−0·2	33·7	+1·1
1906	803	10·0	12. 45. 33·5	−0·8	7. 37. 35·2	+0·6
	821	10·0	34·3	+0·8	34·4	−0·2
	842	10·0	33·9	0·0	34·2	−0·4
1907	818	9·0	12. 45. 34·9	+0·9	8. 48. 9·3	+0·1
	839	9·0	34·8	+0·7	9·6	+0·4
	841	9·0	33·9	−1·4	8·8	−0·4
1908	803	10·0	12. 45. 52·1	−0·2	7. 38. 52·3	−0·1
	820	10·0	52·6	+0·8	52·4	0·0
	840	10·0	52·0	−0·4	52·6	+0·2
1910	815	10·5	12. 46. 12·4	−1·2	8. 42. 42·5	−1·1
	816	10·5	13·3	+0·9	44·4	+0·8
	839	10·5	13·0	+0·2	43·9	+0·3
1915	815	10·5	12. 48. 12·6	+0·4	8. 9. 29·4	−0·3
	817	10·0	12·2	−0·4	30·0	+0·3
	819	10·0	12·3	−0·2	29·6	−0·1
1918	815	10·5	12. 50. 53·9	−0·5	9. 0. 54·0	0·0
	818	10·0	54·3	+0·5	54·3	+0·3
	820	10·0	54·0	−0·2	53·7	−0·3
1919	817	10·5	12. 50. 59·4	−1·3	8. 13. 9·5	−0·3
	818	10·5	60·2	+0·4	10·4	+0·6
	819	10·5	60·3	+0·7	9·4	−0·4
1924	816	10·5	12. 53. 2·4	−1·0	7. 50. 13·8	−0·6
	817	10·0	2·8	−0·2	14·1	−0·3
	818	10·5	3·5	+1·2	15·3	+0·9
1930	815	10·5	12. 54. 35·3	−0·5	8. 51. 5·1	−0·5
	816	10·5	35·3	−0·5	6·5	+0·9
	819	10·0	36·0	+1·2	5·1	−0·5

1807. The light of this star was remarked to be yellow.
1901 on 840. The second microscope-reading doubtful. Half weight in N.P.D.
1904 on 841. 10^s have been taken off the observed R.A.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
1934	816	11·0	12. 57. 20·6	0·0	7. 33. 16·4	+0·6
	817	10·5	20·5	−0·2	16·0	+0·2
	818	10·5	20·7	+0·2	15·1	−0·7
1936	815	8·0	12. 58. 3·2	+0·9	8. 20. 37·3	−0·6
	817	9·0	2·5	−0·7	37·9	0·0
	819	8·0	2·7	−0·2	38·6	+0·7
1940	816	11·0	13. 0. 0·0	−0·6	7. 26. 28·1	0·0
	818	10·5	0·1	−0·4	27·1	−1·0
	820	10·5	0·7	+0·8	29·0	+0·9
1949	815	10·5	13. 3. 12·4	−0·2	7. 51. 23·6	−1·2
	817	10·0	12·2	−0·6	26·0	+1·2
	820	10·5	12·9	+0·8	24·8	0·0
1950	817	10·5	13. 3. 32·6	0·0	7. 58. 39·0	−1·1
	819	10·5	32·6	0·0	40·6	+0·5
	840	10·5	32·5	−0·2	40·8	+0·7
1952	818	10·5	13. 4. 13·9	+0·4	8. 1. 47·3	+0·5
	819	10·5	13·5	−0·4	46·7	−0·1
	839	10·5	13·8	+0·2	46·5	−0·3
1953	818	10·5	13. 4. 26·5	+0·2	7. 45. 49·9	+1·5
	820	10·5	26·1	−0·6	48·6	+0·2
	841	10·5	26·5	+0·2	46·8	−1·6
1959	815	10·5	13. 7. 24·3	−0·2	7. 46. 52·4	−0·9
	816	10·5	24·6	+0·4	53·3	0·0
	817	10·5	24·2	−0·4	54·3	+1·0
1963	816	10·0	13. 9. 40·6	−0·2	8. 51. 41·1	−0·9
	819	10·0	40·9	+0·5	42·3	+0·3
	820	10·0	40·6	−0·2	42·5	+0·5
1964	818	10·5	13. 10. 35·8	0·0	8. 28. 16·0	+0·5
	820	10·5	35·9	+0·2	15·3	−0·2
	840	10·5	35·7	−0·2	15·2	−0·3
1967	817	10·0	13. 10. 56·1	−0·5	9. 2. 49·4	+1·1
	819	10·5	56·4	+0·2	48·4	+0·1
	839	10·5	56·5	+0·5	47·2	−1·1
1968	816	8·0	13. 11. 12·5	+2·1	8. 45. 38·5	0·0
	839	8·0	11·5	−0·2	38·8	+0·3
	841	8·0	10·9	−1·6	38·1	−0·4
1977	818	10·5	13. 12. 35·2	+1·4	8. 36. 50·7	−0·5
	820	10·5	34·6	0·0	51·0	−0·2
	840	10·5	34·0	−1·4	51·8	+0·6
1978	816	10·5	13. 14. 4·3	+0·6	7. 41. 18·3	+1·2
	839	10·5	3·4	−1·2	17·3	+0·2
	842	10·5	4·2	+0·4	15·6	−1·5
1979	818	11·0	13. 14. 9·4	−0·2	8. 34. 51·4	0·0
	820	11·0	9·0	−1·1	53·4	+2·0
	841	11·0	10·0	+1·4	49·3	−2·1
1981	842	10·5	13. 15. 14·1	0·0	7. 23. 3·7	−1·8
	854	10·5	14·0	−0·2	6·7	+1·2
	869	10·5	14·3	+0·4	6·0	+0·5
1982	820	9·5	13. 15. 29·3	0·0	7. 8. 10·3	−0·4
	840	10·0	29·4	+0·2	11·2	+0·5
	870	9·5	29·1	−0·4	10·7	0·0
1984	818	10·0	13. 15. 41·7	+0·4	7. 3. 8·2	+1·1
	819	10·5	41·7	+0·4	6·0	−1·1
	854	10·5	41·2	−0·6	7·1	0·0
1985	815	10·0	13. 16. 18·6	−1·2	8. 43. 18·2	+0·7
	817	10·5	19·2	+0·2	18·3	+0·8
	842	10·0	19·5	+0·9	16·0	−1·5
1987	816	9·0	13. 16. 37·9	+0·2	7. 44. 1·2	+0·3
	839	10·0	38·0	+0·4	0·7	−0·2
	870	9·5	37·4	−0·8	0·8	−0·1
1988	816	10·0	13. 17. 5·2	−0·8	7. 47. 43·9	−0·3
	839	10·5	6·3	+1·4	44·5	+0·3
	869	10·5	5·4	−0·4	44·2	0·0
1993	817	10·0	13. 18. 15·1	−1·2	8. 56. 50·8	0·0
	820	10·0	16·5	+2·1	50·5	−0·3
	840	10·0	15·2	−0·9	51·1	+0·3
1994	818	10·5	13. 18. 21·4	+1·0	9. 3. 25·3	+0·6
	819	10·5	20·8	−0·5	23·8	−0·9
	841	10·5	20·9	−0·2	25·1	+0·4
1996	817	10·0	13. 19. 37·2	−0·2	8. 58. 41·2	+0·7
	820	10·0	37·4	+0·2	39·1	−1·4
	854	10·0	37·3	0·0	41·1	+0·6
1997	815	10·0	13. 19. 45·8	−0·2	8. 37. 1·0	+0·1
	816	10·0	45·8	−0·2	0·9	0·0
	869	10·0	46·1	+0·5	0·8	−0·1
2002	818	10·5	13. 20. 44·8	+1·2	7. 47. 48·2	0·0
	841	10·5	43·8	−0·8	49·0	+0·8
	869	10·5	43·9	−0·6	47·5	−0·7
2004	817	10·0	13. 21. 14·8	+0·7	8. 57. 21·1	−0·1
	820	10·0	14·7	0·0	20·6	−0·6
	840	10·0	14·6	−0·2	22·0	+0·8
2005	816	10·5	13. 21. 18·6	−1·5	8. 20. 53·8	−0·7
	839	10·5	19·2	−0·2	55·8	+1·3
	842	10·0	20·0	+1·5	53·9	−0·6
2009	815	10·0	13. 22. 43·5	+0·4	7. 44. 44·2	−0·4
	818	10·0	43·1	−0·4	44·4	−0·2
	839	10·0	43·4	+0·2	45·2	+0·6
2011	816	10·5	13. 22. 48·9	−0·2	7. 54. 35·0	+0·4
	819	10·5	48·8	−0·4	34·0	−0·6
	841	10·5	49·2	+0·4	34·9	+0·3
2012	815	10·5	13. 23. 12·0	+1·1	8. 12. 37·8	−0·9
	820	10·5	11·3	−0·4	39·7	+1·0
	842	10·5	11·2	−0·7	38·6	−0·1
2016	817	10·5	13. 24. 49·2	−0·4	8. 10. 6·8	−0·4
	818	10·5	49·6	+0·4	7·2	0·0
	839	10·5	49·4	0·0	7·7	+0·5
2017	815	10·0	13. 25. 38·6	+1·2	8. 47. 34·8	−0·4
	819	10·0	37·9	−0·5	33·8	−1·4
	840	10·0	37·7	−0·9	37·1	+1·9
2020	816	10·5	13. 25. 54·9	+1·1	8. 5. 2·8	+1·4
	818	10·5	54·2	−0·4	1·2	−0·2
	839	10·5	54·1	−0·6	0·3	−1·1
2021	816	10·0	13. 26. 10·2	−0·9	8. 13. 18·5	+0·6
	817	9·5	10·7	+0·2	17·5	−0·4
	820	9·5	10·8	+0·4	17·8	−0·1
2025	815	10·0	13. 28. 46·5	−0·2	7. 59. 13·3	+0·2
	818	10·0	46·7	+0·2	13·4	+0·3
	839	10·0	46·6	0·0	12·5	−0·6
2026	816	10·5	13. 28. 58·1	+0·9	8. 29. 40·6	+1·1
	819	10·0	57·4	−0·7	38·9	−0·6
	841	10·0	57·6	−0·2	39·1	−0·4
2028	815	10·5	13. 30. 7·9	−0·4	8. 28. 37·8	−0·1
	819	10·5	8·3	+0·2	38·1	+0·2
	841	10·5	8·0	−0·2	37·8	−0·1
2029	817	10·0	13. 30. 26·5	−0·2	8. 58. 29·0	+0·5
	820	10·0	27·0	+0·9	28·2	−0·3
	840	10·0	26·4	−0·5	28·3	−0·2
2030	817	10·0	13. 30. 27·5	+0·9	8. 57. 21·4	+0·2
	820	10·0	27·2	+0·2	21·2	0·0
	840	10·0	26·5	−1·4	21·1	−0·1
2034	818	10·5	13. 31. 48·0	−0·6	7. 23. 36·6	−0·8
	842	10·5	48·5	+0·4	37·3	−0·1
	854	10·5	48·5	+0·4	38·2	+0·8
2036	818	9·5	13. 32. 49·8	+0·4	7. 15. 42·8	+0·3
	839	10·0	49·4	−0·4	42·6	+0·1
	842	9·5	49·7	−0·2	42·2	−0·3
2039	817	9·5	13. 33. 3·7	+0·9	8. 56. 4·6	−0·5
	840	9·5	3·2	−0·2	5·4	+0·3
	854	9·5	3·0	−0·7	5·3	+0·2
2040	815	10·0	13. 34. 13·0	+0·7	8. 27. 59·3	+0·9
	819	10·0	12·1	−1·3	59·1	+0·7
	841	10·0	12·9	+0·4	56·9	−1·5
2041	818	10·5	13. 34. 22·4	+0·4	7. 16. 52·3	−0·7
	842	10·5	21·8	−0·8	53·2	+0·2
	869	10·5	22·3	+0·2	53·4	+0·4
2042	818	10·5	13. 34. 28·9	+0·7	8. 16. 27·4	−0·5
	820	10·5	28·4	−0·4	27·0	−0·9
	870	11·0	28·5	−0·2	29·3	+1·4
2043	817	10·5	13. 34. 38·7	−1·6	8. 53. 35·8	+0·5
	854	10·5	39·4	0·0	35·2	−0·1
	869	10·5	40·1	+1·6	34·9	−0·4
2046	817	10·5	13. 35. 47·1	+0·2	7. 54. 11·9	+1·0
	820	10·0	46·8	−0·4	10·8	−0·1
	841	10·5	47·1	+0·2	10·0	−0·9
2050	815	9·0	13. 38. 9·8	0·0	8. 46. 49·3	+0·4
	818	9·5	9·7	−0·2	48·8	−0·1
	842	10·0	9·8	0·0	48·5	−0·4
2052	815	10·0	13. 38. 36·0	+1·0	7. 27. 55·6	−0·3
	820	10·0	35·5	0·0	55·3	−0·6
	840	10·0	35·1	−0·8	56·7	+0·8
2053	817	10·5	13. 38. 48·6	−0·2	7. 53. 44·0	+1·3
	818	10·5	49·1	+0·8	42·2	−0·5
	841	10·5	48·5	−0·4	42·0	−0·7
2054	815	10·0	13. 40. 9·6	+0·4	8. 13. 46·7	−0·5
	820	10·0	9·8	+0·9	46·8	−0·4
	854	10·0	8·9	−1·1	48·2	+1·0
2059	817	10·5	13. 41. 20·5	+0·2	8. 4. 5·9	+0·4
	819	10·5	20·2	−0·4	5·5	0·0
	842	10·5	20·5	+0·2	5·2	−0·3
2061	815	9·0	13. 42. 1·3	+0·9	8. 12. 47·2	−0·1
	820	8·0	1·1	+0·4	47·1	−0·2
	854	9·0	0·3	−1·3	47·5	+0·2

1934 on 817. Thought to have a companion following.
1952. There is another fainter star to the South.
2043. Another fainter star follows this one.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
2064	817	10·0	13. 42. 35·2	−0·6	8. 5. 18·9	+0·2	2127	820	10·5	14. 7. 55·5	0·0	7. 53. 57·6	−0·2
	819	10·0	35·3	−0·4	18·6	−0·1		869	10·5	55·9	+0·8	58·4	+0·6
	842	10·0	35·9	+0·9	18·5	−0·2		878	10·5	55·0	−1·0	57·5	−0·3
2065	818	8·0	13. 42. 39·5	+1·0	9. 4. 4·1	−0·1	2128	818	10·0	14. 8. 20·7	+0·4	8. 26. 11·5	+0·1
	840	9·0	38·5	−1·4	5·1	+0·9		870	10·5	20·8	+0·7	11·9	+0·5
	869	8·0	39·3	+0·5	3·5	−0·7		883	10·0	20·1	−0·9	10·8	−0·6
2066	818	10·0	13. 42. 47·4	+0·6	7. 34. 1·1	−0·5	2132	820	10·0	14. 10. 19·2	0·0	7. 42. 28·6	+0·2
	841	10·0	46·6	−1·0	1·3	−0·3		842	9·5	19·0	−0·4	27·6	−0·8
	870	10·0	47·2	+0·2	2·3	+0·7		870	9·5	19·5	+0·6	29·1	+0·7
2067	820	10·5	13. 43. 11·0	+1·7	8. 12. 38·3	+0·7	2133	819	10·5	14. 10. 38·6	+0·7	8. 59. 20·2	+0·2
	841	10·5	9·1	−2·4	36·2	−1·4		840	10·5	37·4	−2·1	20·9	+0·9
	854	10·5	10·5	+0·7	38·2	+0·6		878	10·5	38·9	+1·4	18·9	−1·1
2070	820	10·5	13. 43. 48·2	+0·2	8. 52. 13·0	+0·1	2134	818	10·5	14. 11. 3·8	0·0	8. 30. 28·3	−0·4
	842	10·5	48·6	+1·2	12·7	−0·2		854	10·5	4·0	+0·4	27·7	−1·0
	869	10·5	47·6	−1·2	12·9	0·0		883	10·5	3·5	−0·7	30·1	+1·4
2073	815	9·5	13. 44. 29·4	−0·5	8. 32. 58·9	−0·1	2135	841	9·5	14. 11. 23·9	−1·1	8. 9. 29·3	−0·8
	840	10·0	29·3	−0·7	59·3	+0·3		872	9·5	24·8	+0·9	30·2	+0·1
	870	9·5	30·0	+0·9	58·7	−0·3		884	9·5	24·4	0·0	30·7	+0·6
2076	815	10·0	13. 45. 58·9	−0·5	8. 42. 6·3	0·0	2136	842	10·5	14. 11. 29·5	+0·7	8. 41. 55·8	−0·5
	841	10·0	59·2	+0·2	5·0	−1·3		872	10·5	28·9	−0·7	56·5	+0·2
	870	10·0	59·1	0·0	7·7	+1·4		883	10·5	29·3	+0·2	56·7	+0·4
2077	818	10·5	13. 46. 5·6	−0·6	7. 43. 40·3	−0·3	2139	818	10·5	14. 12. 27·4	−0·7	8. 26. 28·3	+1·3
	819	10·5	6·0	+0·2	40·6	0·0		841	10·5	27·6	−0·2	24·8	−2·2
	869	10·5	6·2	+0·6	41·0	+0·4		872	10·5	28·0	+0·7	27·8	+0·8
2083	818	10·0	13. 49. 38·8	+1·1	8. 0. 24·7	−0·3	2140	820	10·5	14. 12. 38·4	−0·6	7. 8. 27·1	0·0
	820	10·0	38·3	0·0	25·0	0·0		869	10·0	38·1	−1·1	26·9	−0·2
	840	10·0	37·9	−0·8	25·4	+0·4		870	10·5	39·7	+1·9	27·4	+0·3
2085	818	10·5	13. 50. 11·9	+0·2	8. 55. 55·1	+1·0	2147	818	10·5	14. 17. 56·5	−0·6	7. 17. 54·5	+0·6
	819	10·5	12·0	+0·5	55·5	+1·4		840	10·5	56·0	−1·5	53·8	−0·1
	841	11·0	11·4	−0·9	51·8	−2·3		842	11·0	57·8	+1·9	53·3	−0·6
2087	820	10·5	13. 52. 19·0	−1·3	8. 21. 53·1	+0·2	2149	820	10·0	14. 18. 14·5	−0·2	8. 10. 41·8	+0·4
	840	10·5	18·9	−1·5	54·4	+1·5		854	10·0	14·1	−1·1	40·7	−0·7
	842	10·5	20·8	+2·7	51·3	−1·6		870	10·0	15·2	+1·3	41·6	+0·2
2088	818	8·0	13. 53. 16·3	+0·9	8. 31. 7·6	+0·4	2150	818	10·0	14. 18. 48·1	−0·2	8. 5. 30·9	−0·3
	820	8·0	16·3	+0·9	7·2	0·0		820	10·0	48·4	+0·4	31·0	−0·2
	841	8·0	15·2	−1·6	6·8	−0·4		872	10·0	48·2	0·0	31·7	+0·5
2091	818	10·5	13. 54. 38·1	0·0	8. 28. 46·8	−0·5	2151	819	10·5	14. 19. 26·1	−0·8	7. 14. 19·7	+0·4
	820	10·5	38·8	+1·6	48·9	+1·6		842	11·0	26·7	+0·4	18·8	−0·5
	840	10·5	37·5	−1·3	46·3	−1·0		869	11·0	26·8	+0·6	(26·2)	—
2096	818	10·5	13. 56. 21·9	−1·0	7. 17. 53·3	−0·2	2152	841	10·0	14. 19. 46·4	−1·6	7. 30. 40·0	−0·8
	819	10·5	22·4	0·0	55·8	+2·3		870	10·5	48·3	+2·2	41·8	+1·0
	842	10·5	23·0	+1·2	51·3	−2·2		883	10·0	47·0	−0·4	40·6	−0·2
2098	818	10·5	13. 57. 6·5	−0·4	8. 30. 56·7	0·0	2154	869	10·5	14. 20. 0·8	−0·4	8. 29. 9·9	−0·1
	820	10·5	6·5	−0·4	57·7	+1·0		872	10·0	0·9	−0·2	9·1	−0·9
	854	10·5	7·2	+1·1	55·8	−0·9		878	10·0	1·4	+0·9	11·0	+1·0
2101	869	10·5	13. 57. 59·0	−0·7	8. 54. 5·1	+0·4	2155	841	10·5	14. 20. 10·0	−0·4	8. 23. 7·4	−1·6
	872	10·5	59·4	+0·2	4·7	0·0		854	10·5	10·3	+0·2	9·5	+0·5
	883	11·0	59·4	+0·2	4·2	−0·5		878	10·5	10·2	0·0	10·1	+1·1
2103	840	9·5	13. 58. 11·8	−0·8	7. 27. 42·2	+1·5	2156	819	10·5	14. 20. 46·1	−0·8	7. 16. 47·6	−0·2
	854	9·5	12·2	0·0	39·3	−1·4		840	10·5	46·6	+0·2	48·6	+0·8
	870	10·0	12·6	+0·8	40·7	0·0		872	10·5	46·8	+0·6	47·3	−0·5
2104	818	10·0	13. 58. 12·6	+0·4	7. 15. 35·6	−0·5	2157	820	9·5	14. 21. 18·2	0·0	7. 38. 46·6	+0·6
	841	10·5	12·2	−0·4	36·4	+0·3		842	10·0	18·1	−0·2	45·1	−0·9
	842	10·5	12·3	−0·2	36·3	+0·2		870	10·0	18·3	+0·2	46·3	+0·3
2107	841	10·5	13. 58. 49·5	+0·2	9. 0. 15·9	−1·4	2162	841	10·5	14. 24. 25·2	−0·6	7. 58. 25·7	−0·4
	869	10·0	49·2	−0·5	18·5	+1·2		842	10·5	26·3	+1·7	25·5	−0·6
	872	10·0	49·4	0·0	17·6	+0·3		854	10·5	25·1	−0·8	27·0	+0·9
2108	820	10·0	13. 59. 5·1	0·0	8. 24. 51·8	−0·3	2167	840	10·5	14. 25. 42·6	−1·1	8. 18. 54·7	+0·2
	842	10·0	4·8	−0·7	51·7	−0·4		842	10·5	43·8	+1·5	53·6	−0·9
	870	10·0	5·3	+0·4	52·9	+0·8		869	10·0	42·8	−0·7	55·2	+0·7
2111	841	10·0	14. 0. 27·0	−2·6	7. 40. 58·7	−0·8	2169	841	10·5	14. 26. 40·2	−0·5	8. 50. 50·3	−0·9
	870	10·0	29·4	+2·2	60·6	+1·1		854	10·0	40·2	−0·5	51·4	+0·2
	878	9·5	28·5	+0·4	59·2	−0·3		869	10·0	40·7	+0·7	51·8	+0·6
2113	819	10·5	14. 1. 15·5	−0·6	7. 22. 56·7	+0·8	2171	841	10·0	14. 28. 9·3	−0·7	8. 45. 43·7	+0·4
	869	10·5	15·8	0·0	55·9	0·0		842	10·0	10·0	+0·9	43·3	0·0
	872	11·0	16·0	+0·4	55·2	−0·7		869	9·5	9·5	−0·2	42·8	−0·5
2114	842	10·5	14. 1. 17·6	−0·4	7. 37. 50·3	+0·4	2176	840	10·0	14. 29. 35·2	−2·4	8. 18. 7·2	+0·5
	869	10·5	17·8	0·0	50·2	+0·3		842	10·0	36·7	+0·9	4·7	−2·0
	878	10·5	17·9	+0·2	49·2	−0·7		870	10·0	37·0	+1·5	8·3	+1·6
2115	820	10·0	14. 2. 40·3	−0·9	8. 53. 40·7	+0·1	2179	840	10·5	14. 31. 14·0	−0·4	8. 12. 40·2	+0·4
	870	10·0	40·9	+0·5	40·5	−0·1		842	10·5	14·5	+0·7	40·0	+0·2
	872	10·0	40·9	+0·5	40·5	−0·1		878	10·5	14·0	−0·4	39·2	−0·6
2120	818	10·5	14. 4. 39·5	−0·4	8. 5. 37·4	−1·2	2180	841	10·5	14. 31. 15·7	−0·6	7. 30. 39·1	+0·1
	820	11·0	39·7	0·0	39·5	+0·9		854	10·5	16·2	+0·4	39·9	+0·9
	869	10·5	39·8	+0·2	39·0	+0·4		878	10·5	16·1	+0·2	37·9	−1·1
2125	819	10·5	14. 7. 14·0	+0·2	8. 33. 20·3	+1·2	2181	869	10·5	14. 31. 53·3	0·0	7. 46. 4·9	−0·2
	854	9·5	13·5	−0·9	19·5	+0·4		872	10·5	53·1	−0·4	4·8	−0·3
	872	10·5	14·1	+0·5	17·5	−1·6		883	10·5	53·4	+0·2	5·6	+0·5
2126	818	10·5	14. 7. 27·1	+0·2	8. 9. 0·7	−0·4	2182	869	10·5	14. 32. 18·7	−0·8	7. 56. 47·0	+0·2
	872	10·5	26·7	−0·6	1·0	−0·1		872	10·5	19·4	+0·6	46·3	−0·5
	883	10·0	27·2	+0·4	1·6	+0·5		883	10·5	19·2	+0·2	47·2	+0·4

2151 on 869. Illseen. N.P.D. bad. Rejected.
2167. There is another fainter star north-preceding.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
2186	841	10·0	14. 33. 22·9	−1·4	7. 23. 44·7	−1·2	2262	840	10·0	15. 0. 47·8	−0·2	8. 42. 23·8	+0·5
	870	10·0	23·6	0·0	46·9	+1·0		866	10·0	47·8	−0·2	22·8	−0·5
	872	9·5	24·3	+1·4	46·0	+0·1		869	10·0	48·2	+0·7	23·3	0·0
2188	842	9·0	14. 34. 47·6	+1·1	8. 32. 54·0	−0·2	2263	842	10·0	15. 1. 30·3	+1·0	7. 48. 19·2	−1·5
	869	8·5	47·0	−0·2	54·2	0·0		866	10·0	29·2	−1·2	20·1	−0·4
	870	9·0	46·7	−0·9	54·5	+0·3		878	10·0	29·8	0·0	22·7	+2·0
2191	841	10·5	14. 35. 36·5	+0·2	7. 36. 31·4	−1·6	2264	854	10·0	15. 2. 5·2	−0·8	7. 31. 40·7	−0·1
	878	10·0	36·2	−0·4	33·7	+0·7		872	10·0	6·0	+0·8	40·9	+0·1
	884	10·0	36·5	+0·2	33·9	+0·9		878	10·0	5·7	−0·2	40·8	0·0
2192	840	10·5	14. 35. 51·6	−1·7	7. 17. 22·2	+0·3	2265	840	10·5	15. 2. 47·3	−0·9	8. 18. 47·6	−0·6
	854	10·5	53·0	+1·0	20·9	−1·0		869	10·5	47·8	+0·2	48·8	+0·6
	883	10·5	52·8	+0·6	22·5	+0·6		872	10·5	47·9	+0·4	48·2	0·0
2194	842	9·5	14. 35. 59·5	+0·5	8. 48. 1·3	−0·2	2268	840	10·5	15. 5. 54·3	0·0	8. 22. 25·3	+0·4
	870	10·0	59·1	−0·5	1·4	−0·1		866	10·0	54·2	−0·2	24·3	−0·6
	886	9·5	59·4	+0·2	1·8	+0·3		869	10·0	54·4	+0·2	25·0	+0·1
2195	840	10·5	14. 36. 8·5	−1·0	7. 18. 39·1	−0·3	2270	842	10·5	15. 6. 41·6	+0·9	8. 13. 24·6	+0·5
	854	10·5	9·1	+0·2	39·1	−0·3		854	10·5	40·8	−0·9	23·9	−0·2
	883	10·0	9·3	+0·6	40·0	+0·6		869	10·5	41·3	+0·2	23·8	−0·3
2197	870	10·0	14. 36. 50·9	−0·2	9. 1. 16·5	−1·1	2273	842	10·5	15. 8. 23·0	+0·4	8. 8. 50·2	−0·9
	872	10·0	51·2	+0·5	17·4	−0·2		854	10·5	22·9	+0·2	51·8	+0·7
	886	10·0	50·9	−0·2	18·9	+1·3		866	10·5	22·4	−0·9	51·4	+0·3
2199	870	10·0	14. 37. 8·5	−0·5	9. 1. 41·9	+0·4	2278	840	10·5	15. 10. 26·7	−1·1	8. 15. 53·8	−0·5
	872	9·5	9·0	+0·7	41·5	0·0		842	10·5	27·8	+1·3	56·0	+1·7
	886	9·5	8·7	0·0	41·1	−0·4		869	10·5	27·0	−0·4	53·0	−1·3
2200	869	9·5	14. 37. 21·8	+0·6	7. 54. 57·3	+0·4	2282	866	10·5	15. 12. 4·3	0·0	7. 54. 7·0	−1·4
	878	9·5	20·8	−1·5	55·8	−1·1		869	10·5	3·9	−0·8	8·7	+0·3
	884	9·0	21·8	+0·6	57·6	+0·7		872	10·5	4·7	+0·8	9·5	+1·1
2201	842	10·5	14. 37. 28·0	+0·9	8. 41. 54·7	−1·9	2285	842	10·5	15. 12. 45·8	+0·2	8. 27. 49·6	+0·1
	878	10·5	27·8	+0·5	57·1	+0·5		869	10·5	45·7	0·0	49·1	−0·4
	883	10·5	27·1	−1·2	58·0	+1·4		872	10·5	45·6	−0·2	49·9	+0·4
2203	869	10·5	14. 38. 9·3	−0·2	7. 5. 3·0	−0·2	2289	840	9·5	15. 14. 33·9	−0·2	7. 6. 8·1	−0·2
	878	10·5	9·2	−0·4	2·1	−1·1		866	9·0	34·2	+0·4	8·2	−0·1
	884	10·5	9·6	+0·4	4·4	+1·2		870	10·0	33·9	−0·2	8·7	+0·4
2208	840	10·0	14. 40. 12·3	−2·5	8. 40. 6·8	−0·1	2292	854	10·5	15. 16. 1·4	+1·0	7. 39. 30·2	−1·2
	842	10·0	14·1	+1·6	6·8	−0·1		869	10·5	0·9	0·0	31·8	+0·4
	883	10·0	13·8	+0·9	7·1	+0·2		872	10·5	0·5	−0·8	32·2	+0·8
2209	854	10·5	14. 40. 41·9	−1·2	8. 45. 20·7	+0·4	2294	840	10·5	15. 16. 51·3	−0·4	7. 7. 26·4	+1·8
	872	10·5	42·9	+1·2	20·4	+0·1		872	10·5	50·9	−1·1	24·6	0·0
	878	10·5	42·5	+0·2	19·7	−0·6		878	10·5	52·3	+1·5	22·9	−1·7
2212	842	10·5	14. 41. 31·1	−0·5	8. 35. 18·1	−1·1	2295	842	10·5	15. 16. 56·0	+0·8	7. 22. 28·9	+0·4
	872	10·5	31·4	+0·2	19·0	−0·2		869	10·0	55·2	−0·8	28·5	0·0
	883	10·5	31·4	+0·2	20·6	+1·4		870	10·5	55·6	0·0	28·0	−0·5
2214	869	10·0	14. 42. 12·8	+0·5	9. 4. 45·9	+1·1	2300	854	10·5	15. 18. 31·3	−0·2	7. 44. 27·2	−0·6
	870	10·5	12·5	−0·2	44·0	−0·8		866	10·5	31·2	−0·4	28·4	+0·6
	878	10·0	12·4	−0·5	44·4	−0·4		878	10·5	31·8	+0·8	27·8	0·0
2215	840	10·5	14. 42. 39·0	−0·9	8. 6. 44·4	+0·8	2303	842	10·0	15. 19. 31·1	+0·5	8. 46. 26·1	−0·4
	854	10·0	39·3	−0·2	42·6	−1·0		869	9·5	30·6	−0·7	27·2	+0·7
	872	10·0	39·8	+0·9	43·7	+0·1		870	10·5	30·9	0·0	26·1	−0·4
2219	842	10·0	14. 44. 55·1	0·0	7. 58. 10·5	−0·3	2305	842	10·5	15. 20. 43·7	+1·0	7. 18. 21·1	+0·6
	869	10·5	54·6	−1·1	10·8	0·0		866	10·5	42·8	−0·8	20·1	−0·4
	878	10·5	55·5	+0·8	11·0	+0·2		872	10·5	43·2	0·0	20·4	−0·1
2226	869	10·5	14. 47. 19·5	+0·4	7. 30. 46·3	+0·1	2308	866	10·0	15. 22. 46·4	−0·5	8. 51. 28·6	−0·3
	872	10·5	18·8	−1·0	46·4	+0·2		883	10·0	46·9	+0·7	29·2	+0·3
	878	10·5	19·7	+0·8	45·8	−0·4		886	10·0	46·4	−0·5	28·8	−0·1
2230	840	10·0	14. 48. 22·5	−0·7	8. 12. 42·4	−0·4	2309	854	10·0	15. 22. 54·3	+0·4	7. 34. 7·4	−0·6
	854	10·0	22·6	−0·4	42·1	−0·7		872	10·0	54·6	+1·0	8·3	+0·3
	870	10·0	23·2	+0·9	43·8	+1·0		884	10·0	53·3	−1·6	8·4	+0·4
2233	842	10·5	14. 49. 3·2	+2·0	8. 21. 36·9	−0·6	2310	840	10·5	15. 23. 14·0	+0·6	7. 15. 3·3	+1·3
	872	10·5	2·0	−0·7	37·4	−0·1		842	10·5	14·0	+0·6	1·8	−0·2
	878	10·5	1·8	−1·1	38·1	+0·6		883	10·5	13·1	−1·1	1·0	−1·0
2239	842	10·5	14. 50. 30·9	+0·9	8. 51. 15·0	−1·1	2311	869	10·5	15. 23. 36·0	+0·9	8. 26. 52·7	0·0
	866	10·5	30·4	−0·2	17·1	+1·0		878	10·5	35·8	+0·4	50·2	−2·5
	872	10·5	30·2	−0·7	16·3	+0·2		884	10·5	35·0	−1·3	55·3	+2·6
2240	866	10·5	14. 50. 35·7	−0·6	7. 31. 10·5	+0·4	2312	869	9·5	15. 23. 45·8	+0·2	9. 3. 34·4	−0·4
	869	10·5	35·9	−0·2	11·5	+1·4		870	10·0	46·1	+1·0	35·7	+0·9
	878	10·5	36·3	+0·6	8·3	−1·8		886	9·0	45·3	−1·0	34·3	−0·5
2242	840	10·0	14. 51. 10·4	−1·9	7. 15. 46·2	+1·5	2317	854	10·5	15. 26. 6·3	0·0	8. 20. 14·1	+0·5
	842	10·0	12·6	+2·3	42·9	−1·8		878	10·5	6·4	+0·2	12·9	−0·7
	854	10·0	11·1	−0·6	45·1	+0·4		883	10·5	6·3	0·0	13·9	+0·3
2248	842	10·5	14. 54. 14·5	−0·2	8. 33. 55·8	−1·0	2318	840	10·5	15. 26. 27·8	+0·2	8. 32. 16·5	+0·2
	866	10·0	14·5	−0·2	58·1	+1·3		872	10·0	27·3	−0·9	17·0	+0·7
	869	10·5	14·7	+0·2	56·4	−0·4		883	10·0	27·9	+0·5	15·5	−0·8
2252	854	9·5	14. 55. 38·7	+1·7	7. 50. 36·1	−1·0	2320	872	10·5	15. 27. 52·9	+0·4	7. 56. 4·6	−1·2
	866	9·5	37·9	0·0	37·5	+0·4		878	11·0	52·7	0·0	7·4	+1·6
	870	10·0	37·2	−1·4	37·8	+0·7		884	10·5	52·6	−0·2	5·4	−0·4
2255	854	10·0	14. 57. 10·5	+0·4	8. 2. 27·0	−1·1	2322	842	10·5	15. 28. 40·7	+1·3	7. 18. 37·2	−0·1
	866	10·0	9·2	−2·3	28·5	+0·4		869	10·5	40·0	−0·2	37·2	−0·1
	870	10·5	11·2	+1·9	28·7	+0·6		886	10·5	39·7	−0·8	37·4	+0·1
2256	840	9·0	14. 57. 11·6	−1·6	8. 39. 52·3	−0·1	2324	840	9·5	15. 29. 3·2	+1·5	8. 21. 7·9	+0·5
	842	9·0	12·7	+0·9	51·5	−0·9		854	9·5	2·1	−0·9	8·1	+0·7
	869	8·5	12·5	+0·5	53·5	+1·1		883	9·5	2·2	−0·7	6·1	−1·3

2212. There is a fainter star South of this one.
2226. A fainter star follows to the South.
2311. Seen with difficulty. N.P.D.s discordant in consequence.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
2325	842	10·5	15. 29. 18·9	+1·1	7. 56. 46·6	−0·7
	872	10·0	18·3	−0·2	47·6	+0·3
	884	10·0	17·9	+1·1	47·7	+0·4
2326	869	10·0	15. 29. 27·3	−1·2	9. 1. 46·5	+0·4
	878	9·5	28·1	+0·7	46·3	+0·2
	886	9·5	28·0	+0·5	45·6	−0·5
2327	854	9·0	15. 29. 34·6	+0·4	8. 27. 13·6	+0·6
	883	9·0	34·4	0·0	12·5	−0·5
	884	8·5	34·2	−0·4	13·0	0·0
2328	869	9·5	15. 29. 35·6	0·0	7. 30. 14·8	−0·3
	870	10·0	35·9	+0·6	15·1	0·0
	887	9·5	35·3	−0·6	15·5	+0·4
2331	872	10·5	15. 30. 49·7	0·0	7. 41. 13·1	−0·6
	883	10·5	49·8	+0·2	14·2	+0·5
	886	10·5	49·5	−0·4	13·8	+0·1
2332	840	10·5	15. 31. 4·8	+1·3	8. 27. 50·3	−1·3
	878	10·5	4·0	−0·4	52·0	+0·4
	884	10·0	3·8	−0·9	52·4	+0·8
2336	869	10·5	15. 32. 31·7	−0·5	8. 57. 56·5	−0·3
	872	10·5	32·5	+1·4	56·7	−0·1
	884	10·5	31·4	−1·2	57·3	+0·5
2337	854	10·0	15. 33. 26·8	−1·1	8. 10. 7·9	−0·5
	878	10·5	28·0	+1·5	9·8	+1·4
	886	10·0	27·1	−0·4	7·6	−0·8
2340	840	10·5	15. 34. 50·9	−0·5	8. 36. 40·6	−0·6
	872	10·5	51·4	+0·7	41·6	+0·4
	883	0·5	51·1	0·0	41·4	+0·2
2343	842	9·0	15. 35. 23·4	−0·2	7. 36. 49·0	−0·4
	870	9·0	23·7	+0·4	50·8	+1·4
	883	9·0	23·5	0·0	48·4	−1·0
2347	869	9·5	15. 37. 30·6	−0·2	8. 54. 12·1	+0·2
	878	9·5	31·2	+1·2	10·8	−1·1
	884	10·0	30·4	−0·7	12·7	+0·8
2348	842	9·0	15. 37. 47·4	+0·5	9. 4. 24·8	−0·7
	883	9·0	47·4	+0·5	25·3	−0·2
	886	9·0	46·9	−0·7	26·3	+0·8
2349	872	10·0	15. 37. 53·0	0·0	7. 17. 32·2	−0·1
	878	10·0	54·0	+1·9	31·5	−0·8
	884	10·0	52·0	−1·9	33·1	+0·8
2350	842	9·5	15. 37. 59·8	−0·5	9. 4. 20·6	−0·5
	883	9·5	60·3	+0·7	20·8	−0·3
	886	9·5	59·9	−0·2	21·9	+0·8
2352	869	8·5	15. 38. 53·7	−1·4	8. 44. 58·6	−0·7
	870	9·0	55·2	+2·1	61·3	+2·0
	887	9·0	54·0	−0·7	58·1	−1·2
2353	872	10·0	15. 38. 55·2	+1·0	7. 26. 4·2	−1·2
	883	10·5	54·6	−0·2	5·2	−0·2
	886	10·0	54·4	−0·6	6·9	+1·5
2355	869	10·5	15. 40. 33·7	−1·0	7. 31. 5·4	−0·1
	878	10·5	35·4	+2·4	5·8	+0·3
	883	11·0	33·6	−1·2	5·4	−0·1
2358	866	10·0	15. 42. 9·1	−0·4	8. 28. 31·7	+0·1
	872	10·0	9·5	+0·4	31·0	−0·6
	886	10·0	9·3	0·0	32·2	+0·6
2359	878	10·5	15. 42. 10·7	+1·4	7. 48. 49·4	−2·0
	884	10·5	9·8	−0·4	52·0	+0·6
	887	10·5	9·5	−1·0	52·8	+1·4
2360	842	9·0	15. 42. 13·0	0·0	7. 15. 36·1	−1·2
	870	9·0	13·7	+1·3	38·0	+0·7
	884	9·0	12·4	−1·2	37·8	+0·5
2361	866	10·0	15. 42. 13·3	+0·4	8. 28. 25·3	+0·3
	872	10·0	13·3	+0·4	24·3	−0·7
	886	10·0	12·8	−0·7	25·5	+0·5
2364	854	10·5	15. 43. 36·0	−0·7	8. 38. 10·4	+1·7
	883	11·0	36·1	−0·5	7·9	−0·8
	903	11·0	36·9	+1·4	7·9	−0·8
2365	842	10·5	15. 43. 50·6	+0·9	8. 3. 42·1	−0·6
	886	10·5	50·2	0·0	43·5	+0·8
	887	10·5	49·8	−0·9	42·5	−0·2
2366	867	10·0	15. 44. 58·7	−0·7	9. 0. 49·7	−0·5
	870	10·5	59·4	+1·0	51·2	+1·0
	872	10·0	59·0	0·0	49·6	−0·6
2370	842	9·0	15. 45. 55·1	+0·2	8. 55. 39·3	−0·4
	870	9·0	54·8	−0·5	40·9	+1·2
	878	8·5	55·1	+0·2	38·8	−0·9
2374	869	10·0	15. 47. 35·1	−1·1	8. 5. 47·3	+0·3
	870	10·5	36·3	+1·5	46·6	−0·4
	883	10·0	35·3	−0·6	47·1	+0·1
2375	854	10·5	15. 48. 9·4	+0·2	8. 32. 29·7	−0·1
	867	10·5	9·5	+0·5	29·8	0·0
	883	10·5	9·0	−0·7	30·0	+0·2

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
2376	869	9·5	15. 48. 13·3	−1·2	7. 42. 38·1	0·0
	870	9·5	14·8	+1·8	38·1	0·0
	884	9·5	13·6	−0·6	38·2	+0·1
2377	867	10·5	15. 48. 34·2	+1·4	8. 33. 56·5	−0·3
	872	10·5	33·1	−1·1	56·8	0·0
	878	10·5	33·4	−0·5	57·1	+0·3
2378	842	10·5	15. 49. 44·3	+0·9	8. 10. 33·5	+0·8
	872	10·5	44·0	+0·2	32·3	−0·4
	883	10·5	43·5	−0·9	32·2	−0·5
2383	854	10·0	15. 50. 51·4	−1·1	7. 10. 42·3	+0·2
	870	10·0	53·0	+1·9	42·2	+0·1
	884	10·0	51·7	−0·6	41·8	−0·3
2384	842	10·0	15. 51. 22·8	0·0	8. 11. 11·6	+0·2
	872	10·0	23·0	+0·4	11·1	−0·3
	886	10·0	22·7	−0·2	11·5	+0·1
2385	869	10·5	15. 51. 23·0	+0·8	7. 58. 53·6	−1·5
	883	10·5	22·7	+0·2	55·9	+0·8
	884	10·5	22·2	−0·8	55·8	+0·7
2391	869	10·5	15. 54. 5·2	+0·9	8. 22. 15·1	+0·8
	872	10·5	4·7	−0·2	13·2	−1·1
	883	10·5	4·4	−0·9	14·6	+0·3
2392	842	9·5	15. 54. 18·0	−0·2	8. 14. 43·9	−0·2
	870	9·5	18·3	+0·4	44·4	+0·3
	884	9·5	18·0	−0·2	43·9	−0·2
2393	867	8·0	15. 54. 39·7	−1·1	8. 37. 55·2	−0·9
	870	9·0	41·0	+1·8	57·2	+1·1
	884	8·0	40·0	−0·5	56·0	−0·1
2396	842	10·5	15. 56. 48·4	+0·7	8. 17. 49·0	+0·2
	872	10·0	47·7	−0·9	48·1	−0·7
	884	10·0	48·1	0·0	49·3	+0·5
2397	869	10·5	15. 56. 51·5	+0·4	7. 39. 42·9	+0·1
	872	10·5	51·2	−0·2	43·1	+0·3
	883	10·5	51·2	−0·2	42·5	−0·3
2399	854	10·0	15. 57. 37·0	−0·9	7. 7. 43·6	−0·3
	870	10·0	38·1	+1·1	45·1	+1·2
	887	10·0	37·3	−0·4	43·1	−0·8
2405	842	10·5	15. 58. 48·5	−0·9	8. 5. 47·3	+0·1
	878	10·5	49·4	+1·1	47·7	+0·5
	883	10·5	48·8	−0·2	46·7	−0·5
2406	842	9·5	15. 59. 32·7	0·0	7. 12. 11·4	−0·7
	854	9·5	33·0	+0·6	12·2	+0·1
	878	9·0	32·5	−0·4	12·6	+0·5
2409	867	10·5	16. 1. 1·0	+0·9	8. 32. 2·1	−0·1
	872	10·0	0·5	−0·2	2·3	+0·1
	883	10·5	0·2	−0·9	2·1	−0·1
2410	842	9·5	16. 2. 4·4	+0·6	7. 13. 41·5	0·0
	854	9·5	3·9	−0·4	41·5	0·0
	884	9·5	4·0	−0·2	41·6	+0·1
2411	867	10·5	16. 2. 43·1	+0·5	8. 32. 18·6	−0·9
	872	10·5	42·7	−0·5	20·3	+0·8
	883	11·0	42·9	0·0	19·5	0·0
2412	869	10·5	16. 3. 9·9	+0·4	7. 37. 18·6	−1·2
	878	10·5	9·1	−1·2	21·8	+2·0
	884	10·5	10·2	+1·0	19·1	−0·7
2415	869	9·5	16. 4. 22·8	0·0	8. 57. 22·6	0·0
	870	9·5	23·0	+0·5	22·6	0·0
	886	9·5	22·7	−0·2	22·5	−0·1
2420	854	10·0	16. 5. 28·3	+0·9	8. 39. 25·8	+0·3
	870	10·0	27·8	−0·2	25·8	+0·3
	886	10·0	27·7	−0·5	24·8	−0·7
2421	869	9·5	16. 5. 57·0	+0·5	8. 45. 31·7	−0·3
	870	9·5	56·7	−0·2	32·6	+0·6
	887	9·5	56·7	−0·2	31·7	−0·3
2428	869	10·5	16. 8. 12·1	+0·4	7. 35. 53·6	−0·4
	872	10·5	12·0	+0·2	54·5	+0·5
	886	10·5	11·7	−0·4	53·9	−0·1
2429	872	10·5	16. 8. 30·7	+1·5	8. 12. 11·5	−0·6
	878	10·5	29·9	−0·2	12·3	+0·2
	884	10·5	29·4	−1·3	12·6	+0·5
2433	854	10·0	16. 9. 10·3	+0·5	8. 49. 58·3	0·0
	870	10·0	10·1	0·0	57·8	−0·5
	887	10·0	10·0	−0·2	58·8	+0·5
2438	867	9·0	16. 10. 45·7	−0·2	8. 59. 10·9	−0·7
	870	9·0	45·9	+0·2	12·9	+1·3
	872	8·5	45·8	0·0	11·1	−0·5
2442	867	9·5	16. 12. 4·7	−0·4	7. 3. 40·1	−1·4
	869	9·5	5·4	+0·9	42·3	+0·8
	870	9·0	4·6	−0·6	42·2	+0·7
2445	854	10·5	16. 14. 1·6	−0·2	7. 29. 44·2	+0·5
	869	10·0	2·1	+0·8	43·6	−0·1
	878	10·5	1·3	−0·8	43·2	−0·5

2429. Another fainter star North-preceding.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2447	854	10·5	16. 16. 9·7	−0·6	7. 55. 23·9	+ 0·2
	870	10·0	10·2	+ 0·4	23·7	0·0
	872	10·0	10·2	+ 0·4	23·6	− 0·1
2450	869	10·5	16. 18. 19·1	− 1·0	7. 12. 55·7	+ 0·4
	870	10·5	19·8	+ 0·4	54·3	− 1·0
	872	10·5	20·0	+ 0·8	55·8	+ 0·5
2451	854	9·5	16. 18. 36·9	+ 0·6	7. 9. 19·5	+ 0·3
	870	9·5	37·2	+ 1·1	19·1	− 0·1
	872	9·5	35·8	− 1·5	19·0	− 0·2
2452	869	9·5	16. 19. 25·1	− 0·2	8. 55. 59·0	+ 0·1
	870	9·0	25·1	− 0·2	58·9	0·0
	878	9·5	25·4	+ 0·5	58·9	0·0
2458	869	9·0	16. 21. 36·2	− 0·2	8. 30. 0·5	+ 0·1
	870	9·0	36·6	+ 0·7	0·7	+ 0·3
	872	9·0	36·1	− 0·4	0·0	− 0·4
2461	854	9·0	16. 23. 60·2	+ 1·0	7. 34. 11·4	+ 0·4
	869	9·0	59·5	− 0·4	11·8	+ 0·8
	870	9·5	59·4	− 0·6	9·9	− 1·1
2464	869	10·5	16. 24. 15·6	− 1·6	8. 40. 30·7	+ 0·7
	872	10·0	16·5	+ 0·5	30·2	+ 0·2
	878	10·5	16·8	+ 1·1	29·1	− 0·9
2467	870	10·5	16. 25. 13·5	+ 0·9	8. 49. 60·8	+ 1·1
	872	10·5	12·6	− 1·2	58·7	− 1·0
	882	10·0	13·1	0·0	59·7	0·0
2472	872	10·5	16. 27. 18·8	+ 0·8	7. 15. 27·9	+ 0·4
	878	10·5	18·9	+ 1·0	27·4	− 0·1
	884	10·5	17·5	− 1·7	27·3	− 0·2
2474	869	10·5	16. 27. 23·8	− 0·2	8. 26. 17·2	+ 0·8
	878	10·5	24·5	+ 1·3	15·5	− 0·9
	883	10·5	23·3	− 1·3	16·4	0·0
2475	854	9·5	16. 27. 48·5	+ 1·2	7. 34. 22·1	− 0·6
	882	9·5	47·6	− 0·6	23·5	+ 0·8
	886	9·5	47·6	− 0·6	22·5	− 0·2
2477	872	10·5	16. 28. 52·5	+ 1·7	8. 59. 49·2	0·0
	878	10·5	52·4	+ 1·4	49·7	+ 0·5
	884	10·5	50·4	− 3·3	48·6	− 0·6
2478	854	9·5	16. 29. 4·7	+ 1·4	8. 43. 10·4	+ 0·1
	869	9·0	3·8	− 0·7	9·4	− 0·9
	886	9·0	3·8	− 0·7	11·0	+ 0·7
2481	870	9·5	16. 30. 41·4	+ 0·6	8. 12. 14·2	+ 0·1
	878	10·0	41·3	+ 0·4	13·0	− 1·1
	887	9·5	40·6	− 1·1	15·0	+ 0·9
2482	872	10·5	16. 30. 48·1	+ 0·4	7. 13. 7·6	− 0·7
	882	10·5	47·6	− 0·6	9·2	+ 0·9
	886	10·5	48·0	+ 0·2	8·2	− 0·1
2483	869	10·5	16. 31. 1·5	+ 1·2	7. 45. 55·0	− 0·4
	884	10·5	0·2	− 1·4	55·2	− 0·2
	886	10·5	0·9	0·0	56·0	+ 0·6
2486	854	10·5	16. 32. 2·8	+ 2·6	7. 38. 36·8	− 0·1
	883	10·5	0·6	− 1·8	36·4	− 0·5
	884	10·5	1·1	− 0·8	37·5	+ 0·6
2489	870	9·5	16. 33. 24·0	+ 0·9	8. 57. 29·4	+ 0·8
	884	10·0	23·2	− 0·9	28·1	− 0·5
	887	9·5	23·6	0·0	28·2	− 0·4
2490	854	10·5	16. 35. 25·0	+ 0·2	7. 36. 2·3	+ 0·7
	872	10·5	25·1	+ 0·4	1·6	0·0
	883	10·5	24·7	− 0·4	1·0	− 0·6
2492	869	10·5	16. 36. 19·3	− 1·0	7. 52. 16·1	− 0·6
	882	10·5	19·8	0·0	17·0	+ 0·3
	886	10·5	20·3	+ 1·0	16·9	+ 0·2
2493	869	10·0	16. 36. 22·7	+ 1·3	8. 15. 9·5	− 0·4
	884	10·0	21·5	− 1·3	10·5	+ 0·6
	887	10·0	22·0	− 0·2	9·7	− 0·2
2495	872	10·0	16. 36. 37·5	+ 0·9	8. 16. 11·1	+ 1·3
	884	10·0	37·2	+ 0·2	9·7	− 0·1
	887	10·0	36·7	− 0·9	8·5	− 1·3
2499	854	10·5	16. 38. 9·9	− 1·5	7. 5. 7·8	+ 0·1
	872	10·5	11·0	+ 0·6	7·6	− 0·1
	878	10·5	11·2	+ 0·9	7·7	0·0
2502	866	9·5	16. 40. 45·4	− 0·8	7. 49. 2·0	+ 0·5
	869	10·0	45·8	0·0	1·7	+ 0·2
	872	10·0	46·2	+ 0·8	0·9	− 0·6
2505	854	10·0	16. 43. 41·4	+ 0·4	8. 1. 18·6	− 0·7
	866	10·0	40·9	− 0·6	19·5	+ 0·2
	869	10·0	41·2	0·0	19·8	+ 0·5
2510	854	10·5	16. 46. 18·3	+ 0·5	8. 43. 45·0	+ 0·8
	869	10·0	18·3	+ 0·5	43·3	− 0·9
	878	10·0	17·8	− 0·7	44·2	0·0
2511	866	10·5	16. 46. 52·6	0·0	7. 51. 10·7	+ 0·2
	869	10·5	52·7	+ 0·2	10·5	0·0
	872	10·5	52·4	− 0·4	10·2	− 0·3

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2512	878	10·5	16. 47. 9·6	+ 0·2	7. 28. 43·8	+ 0·4
	882	10·5	9·8	+ 0·6	42·8	− 0·6
	883	10·5	9·0	− 1·0	43·6	+ 0·2
2513	854	10·5	16. 47. 10·9	− 1·3	8. 25. 44·5	− 0·2
	872	10·5	11·8	+ 0·7	44·9	+ 0·2
	883	10·5	11·8	+ 0·7	44·7	0·0
2522	869	10·5	16. 50. 46·6	+ 0·5	8. 49. 15·8	− 0·6
	872	10·5	46·2	− 0·5	17·3	+ 0·9
	878	10·5	46·5	+ 0·2	16·0	− 0·4
2525	854	10·5	16. 51. 52·4	− 1·2	8. 42. 32·0	+ 0·9
	872	10·5	53·5	+ 1·4	30·1	− 1·0
	878	10·5	52·7	− 0·5	31·3	+ 0·2
2528	869	10·5	16. 53. 31·6	+ 0·5	8. 32. 53·1	+ 0·2
	878	10·5	31·0	− 0·9	52·2	− 0·7
	882	10·5	31·5	+ 0·2	53·5	+ 0·6
2535	869	10·5	16. 55. 21·1	+ 0·2	7. 15. 59·8	− 0·5
	872	10·5	20·8	− 0·4	61·4	+ 1·1
	882	10·5	21·0	0·0	59·8	− 0·5
2537	869	9·5	16. 56. 53·1	0·0	7. 23. 20·0	+ 0·3
	878	9·5	53·6	+ 1·0	19·5	− 0·2
	884	9·5	52·5	− 1·2	19·6	− 0·1
2539	872	10·5	16. 58. 7·5	− 0·2	8. 54. 26·3	− 0·6
	883	10·0	7·6	0·0	27·6	+ 0·7
	886	10·0	7·7	+ 0·2	26·8	− 0·1
2542	872	9·5	16. 58. 31·5	− 0·8	7. 54. 58·2	− 0·1
	882	9·5	32·3	+ 0·8	59·1	+ 0·8
	887	9·0	32·0	+ 0·2	57·5	− 0·8
2543	884	10·5	16. 58. 39·6	− 1·7	8. 16. 9·2	+ 0·9
	886	11·0	41·1	+ 1·5	7·7	− 0·6
	896	11·0	40·6	+ 0·4	8·0	− 0·3
2545	872	10·5	16. 59. 3·7	− 0·7	8. 45. 48·4	− 1·6
	883	10·5	4·3	+ 0·7	52·2	+ 2·2
	891	10·5	4·1	− 0·2	49·3	− 0·7
2550	869	6·0	17. 0. 59·5	+ 0·8	7. 43. 52·0	− 0·3
	884	5·0	58·8	− 0·6	52·7	+ 0·4
	887	5·0	58·9	− 0·4	52·2	− 0·1
2552	878	10·0	17. 1. 36·3	− 0·9	7. 50. 29·6	− 0·4
	883	10·0	37·2	+ 1·1	30·6	+ 0·6
	887	10·0	36·7	0·0	29·9	− 0·1
2553	869	10·5	17. 1. 60·8	+ 0·6	7. 56. 22·7	+ 0·4
	882	10·5	61·1	+ 1·3	22·3	0·0
	891	10·5	59·7	− 1·7	21·9	− 0·4
2554	878	10·0	17. 2. 3·8	− 0·2	8. 29. 42·8	− 0·3
	883	10·0	4·2	+ 0·7	43·7	+ 0·6
	891	10·0	3·7	− 0·4	42·9	− 0·2
2555	884	10·5	17. 2. 37·6	+ 0·2	8. 52. 53·7	+ 1·0
	886	10·5	37·8	+ 0·7	51·8	− 0·9
	896	10·5	37·1	− 0·9	52·6	− 0·1
2559	872	10·5	17. 6. 1·7	+ 1·6	8. 47. 28·1	− 0·1
	882	10·5	0·5	− 1·2	28·5	+ 0·3
	883	10·5	0·8	− 0·5	27·9	− 0·3
2561	872	10·5	17. 6. 36·6	− 3·7	8. 50. 44·8	+ 1·4
	878	10·5	39·1	+ 2·1	42·7	− 0·7
	883	10·5	38·9	+ 1·6	42·6	− 0·8
2567	878	10·5	17. 8. 34·9	− 0·8	7. 45. 6·1	+ 0·2
	883	10·5	35·5	+ 0·4	6·4	+ 0·5
	886	10·5	35·5	+ 0·4	5·3	− 0·6
2568	872	8·0	17. 8. 38·0	− 0·9	8. 56. 24·2	0·0
	884	8·0	38·6	+ 0·5	25·0	+ 0·8
	891	8·0	38·6	+ 0·5	23·5	− 0·7
2569	884	9·0	17. 8. 52·5	+ 0·2	8. 33. 34·2	+ 0·3
	886	9·0	52·0	− 0·9	34·2	+ 0·3
	887	9·5	52·6	+ 0·5	33·2	− 0·7
2575	869	10·0	17. 11. 22·3	0·0	7. 16. 40·2	+ 0·2
	878	10·0	21·8	− 1·0	39·8	− 0·2
	882	10·0	22·8	+ 1·0	39·9	− 0·1
2581	869	10·0	17. 13. 42·9	0·0	8. 5. 54·9	− 0·5
	872	10·0	42·7	− 0·4	56·5	+ 1·1
	882	10·0	43·1	+ 0·4	54·8	− 0·6
2587	869	10·0	17. 15. 9·8	+ 0·4	7. 55. 19·4	− 0·3
	872	9·5	9·7	+ 0·2	21·0	+ 1·3
	886	9·5	9·4	− 0·4	18·7	− 1·0
2588	872	10·0	17. 16. 34·5	+ 0·9	8. 56. 3·9	+ 0·3
	884	10·5	34·3	+ 0·5	3·6	0·0
	886	10·5	33·6	− 1·2	3·3	− 0·3
2589	878	10·5	17. 17. 37·3	− 0·4	7. 39. 16·3	− 1·4
	883	10·5	37·1	− 0·8	18·6	+ 0·9
	886	10·5	38·0	+ 1·0	18·3	+ 0·6
2591	872	10·0	17. 18. 2·6	− 0·8	7. 31. 4·5	+ 0·7
	882	10·5	3·5	+ 1·0	3·7	− 0·1
	887	10·0	2·8	− 0·4	3·1	− 0·7

2472. S.f. star of 2.
2537. N.f. star of a double. The companion much fainter.
2567. A fainter star following.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2592	869	10·0	17. 18. 3·1	+0·4	8. 27. 25·0	+0·5
	884	10·0	2·9	0·0	25·0	+0·5
	891	9·5	2·8	−0·2	23·5	−1·0
2593	869	10·5	17. 19. 2·6	+0·6	8. 4. 19·5	−1·4
	884	11·0	2·1	−0·4	19·6	−1·3
	896	11·0	2·3	0·0	23·7	+2·8
2594	869	10·5	17. 19. 44·5	+1·7	8. 9. 46·5	−0·6
	886	10·5	44·2	+1·1	47·1	0·0
	903	10·5	42·3	−3·0	47·7	+0·6
2595	878	10·5	17. 19. 53·9	+1·4	7. 19. 55·3	−1·0
	883	10·0	52·4	−1·5	58·2	+1·9
	887	10·0	53·3	+0·2	55·3	−1·0
2602	869	10·0	17. 23. 11·9	+0·2	8. 43. 37·9	−0·7
	872	10·5	11·5	−0·7	39·6	+1·0
	882	10·0	12·0	+0·5	38·2	−0·4
2603	869	10·5	17. 23. 49·8	+1·2	7. 33. 33·5	−0·1
	883	10·5	48·3	−1·8	33·1	−0·5
	886	10·5	49·4	+0·4	34·1	+0·5
2604	872	10·0	17. 23. 55·5	0·0	8. 33. 7·3	+1·0
	878	10·5	56·0	+1·1	5·9	−0·4
	883	10·0	55·0	−1·1	5·6	−0·7
2607	884	11·0	17. 25. 9·5	−1·4	7. 40. 17·5	+0·7
	896	10·5	9·9	−0·6	16·4	−0·4
	908	11·0	11·1	+1·8	16·4	−0·4
2608	883	10·5	17. 25. 43·5	0·0	7. 40. 40·0	−1·3
	896	10·0	43·2	−0·6	41·5	+0·2
	908	10·5	43·8	+0·6	42·4	+1·1
2611	878	10·0	17. 26. 35·7	−0·4	8. 12. 45·6	+1·2
	887	10·0	35·6	−0·7	43·6	−0·8
	907	10·0	36·5	+1·3	43·9	−0·5
2613	886	10·5	17. 26. 48·6	+0·6	7. 54. 52·8	−0·1
	891	10·5	48·0	−0·6	53·2	+0·3
	903	10·5	48·4	+0·2	52·6	−0·3
2614	878	10·5	17. 27. 38·6	+0·4	8. 14. 21·0	+0·4
	887	10·5	38·5	+0·2	19·5	−1·1
	907	10·5	38·2	−0·4	21·2	+0·6
2615	884	10·5	17. 27. 40·0	−0·9	8. 34. 1·9	0·0
	886	10·5	40·3	−0·2	1·4	−0·5
	908	10·5	40·9	+1·1	2·5	+0·6
2616	883	10·5	17. 27. 49·0	−1·4	7. 43. 21·9	−0·9
	903	10·5	49·4	−0·6	23·0	+0·2
	909	10·5	50·8	+2·2	23·4	+0·6
2618	884	10·5	17. 29. 16·1	−2·1	7. 51. 20·5	+0·5
	886	10·5	17·0	−0·2	19·6	−0·4
	909	10·5	18·1	+2·1	20·0	0·0
2621	878	10·5	17. 30. 13·8	+2·1	8. 1. 16·4	+0·2
	887	10·5	11·8	−2·1	15·6	−0·6
	907	10·5	12·8	0·0	16·7	+0·5
2623	869	10·5	17. 30. 40·7	+1·0	7. 26. 23·0	0·0
	872	10·5	40·1	−0·2	24·0	+1·0
	891	10·5	39·7	−1·0	22·0	−1·0
2624	883	9·5	17. 31. 10·0	+1·2	7. 32. 20·3	+0·1
	886	9·5	9·5	+0·2	20·1	−0·1
	896	9·5	8·7	−1·4	20·3	+0·1
2625	872	10·0	17. 32. 27·2	+0·7	8. 46. 40·5	−0·1
	884	10·0	26·4	−1·2	40·6	0·0
	907	10·0	27·2	+0·7	40·7	+0·1
2627	882	10·0	17. 32. 31·0	+1·2	7. 17. 34·9	0·0
	903	10·5	31·1	+1·3	35·4	+0·5
	908	10·5	29·2	−2·3	34·4	−0·5
2629	878	10·0	17. 32. 47·1	0·0	8. 30. 8·5	+0·5
	886	10·0	47·0	−0·2	7·3	−0·7
	909	9·5	47·3	+0·4	8·1	+0·1
2630	869	10·0	17. 32. 58·8	+0·9	8. 48. 16·6	+0·3
	884	10·0	57·6	−1·8	15·6	−0·7
	907	10·0	58·8	+0·9	16·8	+0·5
2636	883	10·5	17. 34. 42·8	−0·4	7. 17. 51·0	+1·2
	886	10·5	42·8	−0·4	48·3	−1·5
	896	10·5	43·3	+0·6	50·2	+0·4
2638	883	9·5	17. 34. 57·6	0·0	7. 9. 11·9	+0·1
	887	9·5	57·1	−0·9	10·9	−0·9
	909	9·5	58·0	+0·8	12·7	+0·9
2641	869	10·0	17. 35. 36·2	+0·9	8. 30. 20·3	+0·8
	878	10·0	35·6	−0·4	18·6	−0·9
	891	10·0	35·6	−0·4	19·5	0·0
2643	869	10·5	17. 37. 16·8	+0·5	8. 51. 35·1	−0·2
	878	10·5	16·5	−0·2	35·4	+0·1
	908	10·0	16·6	0·0	35·3	0·0
2644	872	9·5	17. 37. 27·5	+0·7	9. 2. 8·6	+0·1
	882	9·5	27·6	+1·0	8·2	−0·3
	887	9·5	26·4	−1·9	8·6	+0·1
2645	884	10·5	17. 37. 30·9	−0·7	8. 36. 40·1	+0·4
	891	10·5	31·0	−0·5	38·4	−1·3
	907	10·5	31·6	+0·9	40·6	+0·9
2646	878	10·5	17. 38. 10·8	−1·6	8. 50. 36·2	−2·1
	883	10·5	11·6	+0·2	38·8	+0·5
	908	10·5	12·2	+1·6	39·9	+1·6
2649	883	10·5	17. 39. 52·4	−0·4	7. 34. 16·5	0·0
	884	10·5	52·4	−0·4	15·8	−0·7
	891	10·5	53·0	+0·8	17·3	+0·8
2650	869	10·0	17. 39. 58·2	+0·8	7. 17. 58·3	+0·1
	878	9·5	57·3	−1·0	57·6	−0·6
	896	10·0	57·8	0·0	58·8	+0·6
2651	882	10·0	17. 40. 33·3	+0·8	7. 56. 29·5	+0·8
	886	10·0	32·7	−0·4	28·6	−0·1
	887	10·0	32·6	−0·6	28·0	−0·7
2653	872	10·0	17. 40. 53·2	+1·4	7. 36. 38·1	+0·9
	884	10·0	51·9	−1·2	36·8	−0·4
	887	10·0	52·3	−0·4	36·7	−0·5
2657	869	10·5	17. 43. 13·5	+1·0	7. 14. 50·1	−0·3
	886	10·0	13·0	0·0	50·8	+0·4
	896	10·5	12·4	−1·1	50·4	0·0
2658	882	10·0	17. 43. 37·9	+1·1	8. 29. 21·3	+1·3
	887	10·0	37·3	−0·2	19·5	−0·5
	891	10·0	37·0	−0·9	19·2	−0·8
2660	884	10·5	17. 44. 34·4	−0·9	8. 36. 5·3	+0·9
	886	10·5	35·1	+0·7	4·1	−0·3
	887	10·5	34·9	+0·2	3·9	−0·5
2662	878	10·0	17. 44. 42·8	+0·4	7. 22. 17·6	−0·2
	883	10·0	42·1	−1·0	18·2	+0·4
	891	10·0	42·8	+0·4	17·7	−0·1
2667	883	10·5	17. 47. 46·2	−1·3	7. 4. 15·4	+0·6
	891	10·5	47·9	+1·9	13·6	−1·2
	896	10·5	46·5	−0·7	15·5	+0·7
2671	882	10·0	17. 48. 37·9	+0·7	8. 29. 43·7	+1·1
	887	10·0	36·7	−2·0	43·3	+0·7
	891	10·0	38·2	+1·3	40·7	−1·9
2675	883	10·5	17. 51. 9·3	−1·3	8. 14. 46·5	+0·2
	884	10·5	10·2	+0·7	45·8	−0·5
	896	10·5	10·2	+0·7	46·6	+0·3
2678	884	10·5	17. 52. 37·0	−0·2	8. 22. 18·3	−0·5
	886	10·5	37·2	+0·2	19·1	+0·3
	907	10·5	37·1	0·0	18·9	+0·1
2682	886	10·5	17. 55. 12·2	+0·9	8. 54. 60·0	0·0
	896	10·5	11·7	−0·2	59·4	−0·6
	908	10·5	11·5	−0·7	60·5	+0·5
2685	907	10·0	17. 55. 52·4	−0·8	7. 48. 17·8	+0·2
	914	10·0	53·5	+1·4	17·8	+0·2
	927	10·0	52·4	−0·8	17·2	−0·4
2686	884	10·5	17. 55. 52·7	−0·5	8. 35. 13·7	+1·0
	907	10·5	52·8	−0·2	11·3	−1·4
	909	10·5	53·3	+0·9	13·0	+0·3
2687	883	10·0	17. 55. 53·5	−0·9	8. 14. 12·3	+1·5
	887	10·0	54·2	+0·7	9·3	−1·5
	891	10·0	54·1	+0·4	10·8	0·0
2689	887	10·0	17. 56. 8·5	−0·4	8. 4. 52·5	−0·6
	908	10·0	8·6	−0·2	53·3	+0·2
	936	10·0	9·1	+0·9	53·4	+0·3
2691	912	10·5	17. 56. 32·3	−0·2	7. 49. 53·2	−0·4
	916	11·0	32·5	+0·2	53·9	+0·3
	927	10·5	32·3	−0·2	53·8	+0·2
2692	909	10·5	17. 56. 37·2	−1·4	7. 27. 45·1	−2·7
	912	11·0	38·6	+1·4	50·8	+3·0
	916	11·0	37·8	−0·2	47·6	−0·2
2695	882	9·5	17. 57. 6·1	+1·2	9. 1. 24·0	+1·0
	884	9·5	5·2	−1·0	23·6	+0·6
	891	9·5	5·5	−0·2	21·5	−1·5
2696	886	10·5	17. 57. 34·2	−2·1	8. 54. 30·6	−0·4
	896	10·5	34·8	−0·7	30·9	−0·1
	914	10·5	36·3	+2·8	31·4	+0·4
2701	886	10·0	17. 59. 30·8	+0·5	8. 39. 24·7	−0·2
	891	10·5	30·9	+0·7	24·5	−0·4
	908	10·5	30·2	−0·9	25·5	+0·6
2702	884	9·5	17. 59. 42·2	+0·2	9. 4. 54·7	−0·1
	887	10·0	41·5	−1·4	54·7	−0·1
	907	10·0	42·5	+1·0	55·1	+0·3
2706	884	10·5	18. 0. 6·1	+0·9	8. 50. 20·1	−0·2
	896	10·5	59·0	−1·6	20·5	+0·2
	909	10·5	60·0	+0·7	20·2	−0·1
2713	882	10·0	18. 3. 23·0	+1·1	7. 6. 16·2	+0·2
	886	10·0	22·2	−0·4	15·0	−1·0
	907	10·0	22·1	−0·6	16·7	+0·7

2629. A much fainter star South-preceding.
2701. S. f. star of 2.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
2715	883	10·5	18. 3. 57·4	−1·6	8. 46. 54·7	−0·5
	908	10·5	58·2	+0·2	55·7	+0·5
	912	10·0	58·7	+1·4	55·3	+0·1
2716	884	9·5	18. 4. 19·6	−0·7	9. 5. 12·1	+0·1
	891	9·5	19·7	−0·5	11·6	−0·4
	914	10·0	20·5	+1·4	12·2	+0·2
2717	886	10·0	18. 4. 23·3	−0·8	7. 34. 43·9	+0·1
	908	10·0	23·8	+0·2	43·8	0·0
	914	10·0	23·9	+0·4	43·7	−0·1
2718	883	10·0	18. 4. 51·5	−1·2	8. 50. 57·0	+0·6
	891	10·0	51·9	−0·2	55·6	−0·8
	916	10·0	52·5	+1·2	56·7	+0·3
2720	883	10·5	18. 5. 17·1	−2·1	8. 8. 20·7	+0·2
	886	10·5	18·8	+1·5	20·6	+0·1
	916	10·5	18·5	+0·9	20·1	−0·4
2721	896	10·5	18. 5. 30·7	0·0	7. 41. 38·5	−1·4
	907	10·5	30·7	0·0	40·6	+0·7
	912	10·5	30·6	−0·2	40·5	+0·6
2725	884	9·5	18. 6. 35·5	0·0	8. 20. 21·9	+1·0
	891	10·0	35·3	−0·4	19·9	−1·0
	912	9·5	35·8	+0·7	21·0	+0·1
2726	886	9·5	18. 7. 7·6	+0·2	8. 41. 19·7	−0·2
	907	10·0	7·3	−0·5	19·9	0·0
	908	10·0	7·5	0·0	20·2	+0·3
2730	883	10·0	18. 9. 23·1	−1·8	8. 25. 29·1	+0·1
	884	9·5	24·1	+0·4	28·9	−0·1
	886	10·0	24·5	+1·3	29·1	+0·1
2736	883	10·5	18. 11. 5·7	−0·9	8. 47. 59·0	−0·1
	886	10·0	6·5	+0·9	59·4	+0·3
	891	10·5	6·1	0·0	58·9	−0·2
2741	883	10·0	18. 13. 53·0	−1·2	7. 31. 56·5	−0·2
	884	9·5	53·6	0·0	56·7	0·0
	886	9·5	54·1	+1·0	56·8	+0·1
2745	883	10·5	18. 15. 29·8	−1·1	8. 18. 55·6	+0·3
	896	10·5	30·6	+0·7	56·0	+0·7
	908	10·5	30·6	+0·7	54·3	−1·0
2748	886	10·5	18. 16. 18·9	−1·4	8. 50. 10·0	−1·8
	907	10·5	19·6	+0·2	12·9	+1·1
	909	10·5	20·1	+1·4	12·6	+0·8
2749	884	10·5	18. 16. 27·6	−0·4	7. 11. 2·5	−2·4
	903	10·5	28·0	+0·4	6·9	+2·0
	907	10·5	27·8	0·0	5·4	+0·5
2750	886	10·5	18. 17. 2·0	+1·2	8. 49. 28·7	−0·2
	908	10·5	0·4	−2·6	28·9	0·0
	909	10·5	2·2	+1·7	29·0	+0·1
2753	891	10·5	18. 18. 34·3	−0·4	8. 27. 27·8	+0·9
	896	10·0	34·3	−0·4	26·3	−0·6
	903	10·5	34·9	+0·9	26·6	−0·3
2756	886	10·0	18. 19. 20·6	+0·7	8. 33. 45·6	0·0
	891	10·0	20·7	+0·9	45·4	−0·2
	907	10·0	19·6	−1·6	45·7	+0·1
2757	886	9·0	18. 19. 23·1	+1·1	8. 33. 31·5	+0·2
	891	9·0	22·9	+0·7	31·1	−0·2
	907	9·5	21·8	−1·8	31·3	0·0
2765	884	10·5	18. 21. 40·4	+0·9	8. 31. 59·0	−1·2
	891	10·5	39·7	−0·7	60·6	+0·4
	896	10·5	40·0	0·0	60·9	+0·7
2768	883	10·0	18. 23. 26·2	+0·2	8. 35. 7·9	+0·8
	886	9·5	26·4	+0·7	6·7	−0·4
	896	9·5	25·8	−0·7	6·8	−0·3
2772	884	10·0	18. 24. 52·5	−0·4	7. 39. 4·7	+0·6
	886	10·0	53·0	+0·6	4·3	+0·2
	891	10·0	52·5	−0·4	3·4	−0·7
2775	883	9·0	18. 26. 43·9	−0·7	8. 35. 38·6	0·0
	887	9·0	43·8	−0·9	39·3	+0·7
	896	9·0	44·9	+1·6	37·8	−0·8
2777	884	10·0	18. 27. 49·4	+0·7	9. 1. 17·9	+0·6
	886	9·5	49·1	0·0	17·0	−0·3
	903	10·0	48·9	−0·5	17·0	−0·3
2780	884	9·5	18. 28. 37·2	+0·6	7. 7. 46·5	+0·8
	887	9·0	36·6	−0·6	44·2	−1·5
	891	8·0	36·8	−0·2	46·3	+0·6
2785	886	10·0	18. 29. 11·0	+0·8	7. 31. 41·3	−0·1
	887	10·0	10·2	−0·8	41·3	−0·1
	891	10·0	10·5	−0·2	41·6	+0·2
2787	886	10·5	18. 31. 46·4	0·0	8. 52. 22·2	−1·2
	903	10·5	46·7	+0·7	24·3	+0·9
	909	10·5	46·0	−0·9	23·7	+0·3
2791	887	10·0	18. 33. 32·5	−1·3	8. 9. 59·1	+0·3
	891	10·0	33·0	−0·2	57·6	−1·2
	908	10·0	33·7	+1·3	59·7	+0·9
2792	884	9·5	18. 33. 53·7	+1·7	7. 13. 6·9	+0·1
	887	9·5	52·5	−0·6	6·2	−0·6
	896	9·5	52·3	−1·0	7·2	+0·4
2794	886	10·5	18. 35. 0·7	+0·2	8. 57. 18·5	−0·9
	903	10·5	0·3	−0·7	18·9	−0·5
	909	10·5	0·9	+0·7	20·7	+1·3
2795	891	9·5	18. 35. 2·7	+0·6	7. 47. 12·9	+0·1
	907	10·0	2·3	−0·2	12·8	0·0
	909	9·5	2·2	−0·4	12·6	−0·2
2798	884	10·5	18. 35. 37·3	+1·7	8. 14. 38·8	−0·5
	907	10·5	36·3	−0·4	39·4	+0·1
	908	10·5	36·0	−1·1	39·7	+0·4
2800	887	9·5	18. 36. 12·4	+0·6	7. 12. 43·2	−0·2
	891	9·5	12·1	0·0	43·7	+0·3
	896	9·5	11·7	−0·8	43·4	0·0
2801	886	10·0	18. 36. 32·8	−0·9	8. 53. 26·1	−0·1
	903	10·0	33·3	+0·2	26·6	+0·4
	909	10·0	33·6	+0·9	25·8	−0·4
2803	907	10·0	18. 36. 41·9	+0·2	8. 19. 52·0	−0·4
	908	10·5	41·5	−0·7	52·5	+0·1
	912	10·5	42·1	+0·7	52·8	+0·4
2805	887	10·0	18. 37. 49·5	−0·9	8. 40. 15·6	−0·6
	896	10·5	50·4	+1·1	16·3	+0·1
	912	10·5	49·9	0·0	16·6	+0·4
2806	891	10·5	18. 38. 14·4	−0·2	8. 43. 37·4	−0·3
	909	10·5	14·3	−0·5	38·6	+0·9
	916	10·5	14·9	+0·9	37·2	−0·5
2808	886	10·0	18. 39. 32·6	−0·7	8. 55. 8·5	+0·3
	903	10·5	32·9	0·0	7·7	−0·5
	927	10·0	33·2	+0·7	8·4	+0·2
2812	907	10·5	18. 40. 20·8	+1·4	7. 49. 28·0	+1·1
	908	11·0	20·3	+0·4	26·8	−0·1
	916	10·5	19·3	−1·6	25·8	−1·1
2813	887	9·0	18. 40. 26·7	−0·2	7. 24. 19·3	−0·2
	912	9·0	27·0	+0·4	19·7	+0·2
	927	9·5	26·8	0·0	19·6	+0·1
2814	886	10·5	18. 40. 36·2	+1·4	8. 55. 46·8	+0·3
	909	10·5	35·4	−0·5	46·9	+0·4
	927	10·5	35·3	−0·7	45·8	−0·7
2821	886	10·5	18. 42. 46·3	−0·5	8. 45. 34·7	−0·9
	908	10·5	46·5	0·0	37·3	+1·7
	916	10·5	46·8	+0·7	34·7	−0·9
2823	896	10·5	18. 43. 41·2	+0·2	7. 3. 32·4	−0·7
	909	10·5	41·0	−0·2	33·6	+0·5
	912	10·5	41·0	−0·2	33·4	+0·3
2826	886	10·5	18. 44. 18·6	−0·5	8. 36. 60·3	+0·3
	908	10·5	18·9	+0·2	60·6	+0·6
	916	10·5	18·9	+0·2	59·0	−1·0
2827	887	10·5	18. 44. 48·1	−0·6	7. 59. 47·6	−1·0
	907	10·5	48·5	+0·2	48·7	+0·1
	912	10·5	48·7	+0·6	49·5	+0·9
2829	903	10·5	18. 45. 46·3	+0·2	8. 24. 36·8	−2·5
	909	10·5	46·0	−0·5	38·8	−0·5
	940	10·5	46·2	0·0	42·2	+2·9
2831	887	10·5	18. 46. 26·6	+1·8	7. 44. 28·3	−4·2
	907	10·5	25·4	−0·6	33·3	+0·8
	927	10·5	25·2	−1·0	33·7	+1·2
2833	886	10·5	18. 47. 36·7	+0·2	7. 50. 6·5	+0·1
	908	10·5	36·9	+0·6	6·9	+0·5
	916	10·5	36·1	−1·0	5·8	−0·6
2838	886	10·0	18. 48. 46·0	+0·2	8. 0. 18·6	−0·6
	891	10·0	45·9	0·0	20·0	+0·8
	914	10·0	45·8	−0·2	18·9	−0·3
2839	907	10·5	18. 48. 50·1	+0·8	7. 25. 50·8	+0·5
	909	10·0	50·1	+0·8	50·8	+0·5
	916	10·5	49·0	−1·4	49·3	−1·0
2840	896	10·0	18. 49. 5·4	−1·3	8. 13. 30·9	−1·2
	912	10·0	6·9	+2·0	32·2	+0·1
	940	10·0	5·8	−0·4	33·3	+1·2
2841	891	10·5	18. 49. 14·1	+0·2	8. 47. 31·8	−0·5
	908	10·0	14·3	+0·7	32·2	−0·1
	927	10·0	13·6	−0·9	32·9	+0·6
2844	907	10·5	18. 50. 29·0	−0·7	7. 1. 45·4	+0·1
	912	10·5	28·6	−1·5	44·9	−0·4
	940	10·5	30·7	+2·4	45·5	+0·2
2845	886	10·5	18. 50. 58·4	+0·2	7. 46. 20·9	+0·1
	916	10·5	57·9	−0·8	18·7	−2·1
	941	10·5	58·5	+0·4	22·9	+2·1
2847	891	10·5	18. 51. 13·5	−0·2	8. 50. 53·9	−0·4
	908	10·5	14·3	+1·6	54·2	−0·1
	927	10·0	12·9	−1·6	54·8	+0·5

2741 on 886. 10° have been taken off the observed R.A.
2780. The magnitudes disagree sensibly.
2831 on 887. N.P.D. bad. Half weight.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
2850	909	10·5	18. 52. 18·6	−0·4	7. 45. 21·1	+0·4	2921	903	10·0	19. 16. 38·2	−2·1	8. 53. 4·5	−0·2
	916	11·0	18·0	−1·6	20·4	−0·3		940	10·0	39·7	+1·4	5·2	+0·5
	940	10·5	19·8	+2·0	20·6	−0·1		941	10·0	39·3	+0·5	4·4	−0·3
2853	886	10·0	18. 52. 52·4	−2·7	7. 50. 44·0	−0·1	2923	907	9·5	19. 17. 19·3	−2·3	8. 35. 13·7	+0·2
	896	10·0	52·8	−1·9	44·4	+0·3		912	10·0	20·8	+1·1	12·8	−0·7
	914	10·5	55·8	+4·3	44·0	−0·1		940	10·0	20·9	+1·4	13·9	+0·4
2854	891	10·0	18. 54. 24·5	−1·4	8. 36. 20·0	+0·5	2935	903	10·5	19. 19. 26·8	−0·6	7. 47. 3·1	−0·3
	908	10·0	24·4	−1·6	19·7	+0·2		908	10·5	27·3	+0·4	3·5	+0·1
	912	10·0	26·4	+3·0	18·9	−0·6		909	10·5	27·1	0·0	3·7	+0·3
2856	907	10·5	18. 54. 55·5	0·0	7. 45. 42·5	−0·9	2933	896	10·0	19. 23. 15·3	−0·4	8. 23. 8·5	−0·2
	909	10·5	55·3	−0·4	42·1	−1·3		908	10·0	15·5	0·0	9·1	+0·4
	940	10·5	55·8	+0·6	45·6	+2·2		912	10·0	15·8	+0·7	8·5	−0·2
2858	896	10·0	18. 55 6·3	−2·2	7. 28. 13·8	−0·7	2934	903	9·0	19. 24. 2·5	+0·5	8. 59. 40·4	−0·7
	903	10·0	6·9	−1·0	15·4	+0·9		907	9·5	2·0	−0·7	42·0	+0·9
	912	10·0	8·9	+3·0	14·2	−0·3		912	9·5	2·4	+0·2	40·9	−0·2
2863	896	9·5	18. 57. 37·9	+0·9	8. 57. 37·4	+0·7	2937	919	10·0	19. 24. 54·5	−0·4	8. 2. 54·6	+0·1
	912	9·5	38·0	+1·2	35·9	−0·8		927	10·0	54·5	−0·4	53·6	−0·9
	927	9·5	36·5	−2·4	36·9	+0·2		940	10·0	55·1	+0·9	55·4	+0·9
2865	891	9·5	18. 58. 1·3	−0·6	7. 55. 24·9	+0·6	2940	908	10·0	19. 25. 21·2	−0·6	7. 43. 53·3	+1·1
	908	9·5	1·1	−1·0	25·3	+1·0		909	10·0	21·3	−0·4	51·5	−0·7
	914	9·5	2·3	+1·5	22·7	−1·6		919	10·0	22·0	+1·0	51·9	−0·3
2868	891	10·5	18. 58. 49·6	0·0	8. 25. 49·6	0·0	2941	896	10·0	19. 25. 24·3	−0·4	8. 20. 29·4	0·0
	909	10·0	49·6	0·0	49·1	−0·5		936	10·5	25·0	+1·1	29·2	−0·2
	927	10·0	49·5	−0·2	50·2	+0·6		942	10·0	24·2	−0·7	29·6	+0·2
2875	907	10·5	18. 59. 59·6	−0·2	7. 59. 15·0	+0·1	2944	907	10·5	19. 25. 42·1	−0·5	8. 38. 14·6	+0·1
	908	10·5	59·4	−0·6	14·8	−0·1		927	10·5	42·3	0·0	15·4	+0·9
	940	10·5	60·2	+1·1	14·8	−0·1		941	10·5	42·5	+0·5	13·6	−0·9
2877	907	10·5	19. 0. 17·0	0·0	7. 10. 40·5	+1·0	2945	908	10·5	19. 27. 38·2	+0·2	7. 38. 30·3	−0·5
	914	10·5	16·6	−0·8	39·6	+0·1		940	10·5	38·3	+0·4	31·5	+0·7
	927	10·5	17·5	+0·9	38·5	−1·0		943	10·5	37·7	−0·8	30·5	−0·3
2878	903	10·5	19. 0. 26·3	+0·7	8. 28. 28·8	−0·5	2947	903	9·0	19. 27. 57·4	+0·7	8. 37. 59·1	−1·3
	909	10·5	25·7	−0·7	29·8	+0·5		907	9·5	56·2	−2·1	60·6	+0·2
	916	10·5	25·9	−0·2	29·3	0·0		944	9·0	57·6	+1·1	61·4	+1·0
2887	896	10·0	19. 3. 36·2	0·0	7. 28. 45·4	+0·5	2948	896	9·5	19. 28. 19·2	+1·1	8. 20. 49·7	+0·1
	914	10·0	36·4	+0·4	44·4	−0·5		936	9·5	18·1	−1·3	49·0	−0·6
	916	10·0	36·1	−0·2	45·0	+0·1		945	9·5	18·8	+0·2	50·0	+0·4
2890	896	10·5	19. 5. 41·0	+0·2	7. 27. 30·2	−0·2	2950	936	10·5	19. 28. 41·1	−0·4	7. 13. 43·8	−0·5
	916	10·5	41·2	+0·6	30·1	−0·3		941	10·5	41·3	0·0	45·5	+1·2
	927	10·5	40·6	−0·6	30·8	+0·4		946	10·5	41·6	+0·6	43·7	−0·6
2891	903	10·0	19. 6. 19·0	−0·2	8. 25. 38·2	+1·3	2951	908	10·5	19. 28. 49·5	0·0	7. 46. 4·5	−0·8
	907	10·5	18·5	−1·3	37·3	+0·4		942	10·5	49·0	−1·0	5·5	+0·2
	940	10·5	19·8	+1·6	35·3	−1·6		943	10·5	50·1	+1·2	6·0	+0·7
2893	916	11·0	19. 7. 44·3	−1·5	8. 2. 0·7	0·0	2952	909	10·0	19. 28. 52·4	+0·2	8. 7. 30·5	+0·3
	919	10·5	45·1	+0·2	1·0	+0·3		927	10·0	52·3	0·0	29·8	−0·4
	940	10·5	45·6	+1·3	0·5	−0·2		942	10·0	52·2	−0·2	30·3	+0·1
2894	908	10·5	19. 8. 8·8	−0·4	7. 40. 53·3	−1·2	2954	907	10·0	19. 29. 6·1	−0·7	8. 42. 38·4	0·0
	912	10·5	9·9	+1·8	55·9	+1·4		941	10·0	6·6	+0·5	37·6	−0·8
	941	10·5	8·2	−1·6	54·2	−0·3		946	10·0	6·5	+0·2	39·1	+0·7
2896	909	10·5	19. 8. 37·8	−1·4	7. 31. 24·9	+0·7	2956	919	11·0	19. 29. 23·1	+0·9	8. 56. 8·9	−1·0
	919	10·5	38·8	+0·6	23·7	−0·5		940	11·0	22·5	−0·5	9·6	+0·6
	927	10·5	38·9	+0·8	23·9	−0·3		944	10·5	22·6	−0·2	9·5	+0·5
2897	896	10·5	19. 8. 40·0	−0·6	7. 28. 42·4	+0·3	2957	909	10·0	19. 29. 39·6	+0·5	8. 34. 16·7	+0·2
	903	10·0	39·6	−1·4	42·2	+0·1		941	10·5	39·0	−0·9	16·3	−0·2
	908	10·5	40·1	−0·4	41·8	−0·3		945	10·5	39·6	+0·5	16·5	0·0
	912	10·5	42·2	+3·8	43·9	+1·8	2960	896	10·0	19. 31. 28·3	−0·2	8. 10. 6·5	−0·6
	927	10·0	39·5	−1·6	40·0	−2·1		908	10·0	28·6	+0·4	8·1	+1·0
2900	940	10·5	19. 9. 14·2	—	7. 29. 46·4	—		936	10·0	28·3	−0·2	6·6	−0·5
2902	891	8·0	19. 9. 22·5	−0·4	7. 50. 43·4	−0·3	2962	907	9·0	19. 32. 40·8	−1·3	8. 30. 1·5	+0·1
	907	9·0	22·6	−0·2	45·2	+1·5		914	9·5	41·9	+1·1	1·7	+0·3
	941	9·0	23·0	+0·6	42·6	−1·1		927	9·0	41·6	+0·4	1·0	−0·4
2905	891	10·5	19. 10. 4·8	−0·8	7. 7. 60·4	+2·6	2963	909	10·5	19. 32. 56·4	0·0	7. 32. 1·0	−0·1
	909	10·5	5·6	+0·8	57·0	−0·8		919	10·5	56·2	−0·4	0·4	−0·7
	940	10·0	5·3	+0·2	55·9	−1·9		940	10·5	56·5	+0·2	1·9	+0·8
2910	908	10·5	19. 12. 12·7	+0·8	7. 56. 56·0	−0·3	2969	907	9·5	19. 34. 17·6	−1·8	8. 33. 20·5	−0·1
	919	10·5	13·3	+2·1	57·0	+0·7		908	9·5	18·9	+1·1	20·6	0·0
	927	10·5	11·0	−2·7	56·0	−0·3		914	9·5	18·6	+0·5	20·7	+0·1
2911	896	10·0	19. 12. 21·0	−0·4	8. 31. 17·2	+0·9	2972	907	10·5	19. 35. 47·6	−1·4	7. 42. 17·6	−0·3
	909	10·0	21·2	0·0	16·2	−0·1		909	10·5	48·9	+1·2	18·4	+0·5
	940	10·0	21·3	+0·2	15·5	−0·8		927	10·5	48·4	+0·2	17·7	−0·2
2913	903	10·0	19. 14. 5·3	0·0	8. 26. 2·5	+0·3	2974	896	10·5	19. 36. 31·5	−1·1	8. 5. 23·3	+0·5
	908	10·0	4·8	−1·1	2·5	+0·3		919	10·5	32·4	+0·9	22·1	−0·7
	912	10·0	5·8	+1·1	1·6	−0·6		936	10·5	32·1	+0·2	22·9	+0·1
2917	908	10·5	19. 15. 54·4	+2·8	8. 1. 39·9	+1·5	2979	914	10·0	19. 38. 13·6	+2·0	7. 23. 51·4	−0·5
	909	10·5	52·8	−0·6	38·3	−0·1		927	10·0	11·6	−2·0	51·6	−0·3
	927	10·5	52·1	−2·1	37·1	−1·3		940	10·0	12·6	0·0	52·6	+0·7
2919	909	10·5	19. 16. 25·7	+0·4	7. 58. 50·5	−0·1	2980	896	10·0	19. 39. 49·4	−0·6	8. 10. 29·6	+1·3
	919	10·5	25·1	−0·8	50·7	+0·1		936	10·0	50·1	+0·9	27·2	−1·1
	927	10·5	25·7	+0·4	50·5	−0·1		941	9·5	49·7	0·0	28·2	−0·1
2920	907	9·0	19. 16. 34·2	−1·6	7. 33. 58·8	+2·1	2982	919	10·5	19. 39. 59·6	−1·2	7. 41. 17·1	−1·3
	912	9·5	35·4	+0·8	55·7	−1·0		927	10·5	60·6	+0·8	17·8	−0·6
	941	9·5	35·5	+1·0	55·6	−1·1		940	10·5	60·5	+0·6	20·3	+1·9

2897. Twice observed by mistake for 2900.
2905. There is a fainter star to the North of this one.
2940 on 919. A fainter star South-following.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
2984	907	10·5	19. 40. 38·6	−1·1	8. 27. 3·9	−0·2	3047	919	10·5	20. 5. 16·7	+0·8	7. 36. 22·9	+0·1
	919	10·5	39·3	+0·4	5·0	+0·9		940	10·5	16·8	+1·0	22·9	+0·1
	941	10·5	39·5	+0·9	3·4	−0·7		942	10·5	15·5	−1·6	22·7	−0·1
2985	903	9·0	19. 41. 15·8	−0·2	7. 32. 54·1	+1·1	3049	909	9·5	20. 5. 58·7	+0·2	8. 30. 38·8	+0·5
	914	9·0	16·2	+0·6	51·5	−1·5		936	9·5	58·7	+0·2	37·9	−0·4
	942	9·5	15·7	−0·4	53·5	+0·5		946	9·5	58·5	−0·2	38·1	−0·2
2986	909	10·5	19. 41. 35·5	+0·4	8. 13. 47·8	−0·8	3050	927	10·5	20. 6. 3·4	−1·2	7. 48. 14·2	+0·3
	936	10·5	35·0	−0·7	47·5	−1·1		941	10·5	3·9	−0·2	13·4	−0·5
	940	10·5	35·5	+0·4	50·6	+2·0		944	10·5	4·6	+1·2	14·0	+0·1
2987	908	10·5	19. 42. 12·5	+1·2	7. 34. 23·7	+1·0	3052	927	10·5	20. 6. 31·3	−0·2	7. 40. 14·7	+1·4
	914	10·0	11·6	−0·6	21·3	−1·4		940	10·5	31·6	+0·4	13·8	+0·5
	941	10·0	11·6	−0·6	23·1	+0·4		943	10·5	31·4	0·0	11·3	−2·0
2988	927	10·5	19. 42. 34·2	−0·5	8. 54. 30·0	−0·8	3054	909	10·0	20. 7. 51·7	+0·2	8. 15. 50·5	+0·2
	940	10·5	34·6	+0·5	31·2	+0·4		942	10·0	51·4	−0·4	50·0	−0·3
	942	10·5	34·3	+0·2	31·2	+0·4		944	10·0	51·8	+0·4	50·3	0·0
2993	908	10·5	19. 46. 41·0	0·0	8. 6. 32·9	+1·0	3056	936	10·5	20. 8. 1·4	−2·1	7. 54. 2·5	+0·3
	927	10·5	41·1	+0·2	31·2	−0·7		940	10·5	2·3	−0·2	3·1	+0·9
	936	10·5	40·8	−0·4	31·6	−0·3		944	10·5	3·5	+2·3	1·1	−1·1
2995	909	10·0	19. 47. 21·9	−1·0	8. 59. 39·9	+0·1	3059	927	10·5	20. 8. 41·9	+0·2	7. 6. 26·9	+0·2
	914	10·0	22·8	+1·2	40·1	+0·3		941	10·5	40·8	−1·9	26·0	−0·7
	927	10·0	22·2	−0·2	39·3	−0·5		946	10·5	42·6	+1·5	27·2	+0·5
2996	909	10·0	19. 48. 37·7	−1·4	8. 45. 12·0	−0·1	3063	909	10·0	20. 10. 14·0	0·0	8. 46. 45·5	+0·7
	914	10·0	38·5	+0·5	11·5	−0·6		942	10·0	13·8	−0·5	43·4	−1·4
	940	10·0	38·8	+1·2	12·7	+0·6		943	10·0	14·2	+0·5	45·5	+0·7
2997	909	10·5	19. 48. 42·3	−0·4	8. 29. 18·1	+0·6	3064	919	10·5	20. 10. 18·3	0·0	8. 28. 57·2	−1·2
	927	10·5	42·0	−1·1	16·3	−1·2		941	10·5	18·0	−0·7	58·1	−0·3
	941	10·0	43·1	+1·3	18·0	+0·5		947	10·5	18·6	+0·7	59·9	+1·5
3002	908	10·5	19. 50. 26·1	−0·6	8. 4. 25·3	+0·9	3065	940	10·5	20. 10. 56·2	+0·4	7. 46. 40·3	−0·4
	927	10·5	26·6	+0·4	22·6	−1·8		941	10·5	56·1	+0·2	40·1	−0·6
	940	10·5	26·4	0·0	25·2	+0·8		947	10·5	55·6	−0·8	42·9	+2·2
3006	907	10·0	19. 51. 0·2	−1·7	8. 2. 57·9	−0·8	3066	909	10·5	20. 11. 7·8	+1·4	8. 48. 40·0	−0·8
	914	10·0	1·2	+0·4	58·8	+0·1		944	11·0	6·1	−2·6	42·6	+1·8
	940	10·0	1·5	+1·1	59·3	+0·6		946	10·5	7·6	+0·9	39·7	−1·1
3012	919	10·5	19. 52. 8·1	−1·3	8. 17. 39·2	0·0	3072	927	10·0	20. 12. 24·2	+0·2	7. 6. 29·0	+0·9
	936	10·5	9·0	+0·7	39·2	0·0		940	10·0	23·7	−0·8	27·7	−0·4
	941	10·5	9·0	+0·7	39·2	0·0		946	10·0	24·5	+0·8	27·6	−0·5
3016	907	10·5	19. 54. 7·9	−0·9	8. 56. 21·0	−1·2	3073	927	10·0	20. 12. 26·6	−1·1	7. 6. 24·2	+0·3
	927	10·5	8·9	+1·4	22·5	+0·3		940	10·0	27·2	0·0	23·8	−0·1
	942	10·5	8·1	−0·5	23·0	+0·8		946	10·0	27·7	+0·9	23·8	−0·1
3017	908	10·5	19. 54. 13·0	−0·4	8. 19. 57·7	+1·4	3074	907	10·0	20. 12. 47·0	−1·6	8. 23. 29·4	+0·4
	919	10·5	13·8	+1·3	55·5	−0·8		936	10·0	48·2	+1·1	28·2	−0·8
	941	11·0	12·8	−0·9	55·7	−0·6		941	10·0	47·8	+0·2	29·4	+0·4
3018	936	10·5	19. 54. 41·3	−1·2	9. 2. 49·8	+0·2	3081	907	9·5	20. 17. 9·2	0·0	7. 35. 56·0	−0·5
	940	10·5	42·5	+1·7	49·8	+0·2		909	9·5	9·0	−0·4	56·7	+0·2
	942	10·0	41·6	−0·5	49·3	−0·3		919	9·5	9·3	+0·2	56·9	+0·4
3020	914	10·0	19. 55. 56·0	+1·2	8. 41. 52·6	+1·3	3083	908	10·5	20. 17. 44·8	0·0	8. 56. 43·4	+1·0
	941	10·5	55·2	−0·7	49·1	−2·2		919	10·0	44·8	0·0	41·4	−1·0
	944	10·0	55·3	−0·5	52·2	+0·9		936	10·5	44·8	0·0	42·4	0·0
3022	907	10·0	19. 56. 2·4	−2·4	9. 4. 32·2	−0·9	3084	907	10·5	20. 17. 51·0	+1·3	8. 13. 11·3	+1·0
	940	10·0	4·6	+2·9	34·0	+0·9		909	10·5	50·4	0·0	9·8	−0·5
	942	9·5	3·2	−0·5	33·2	+0·1		927	10·5	49·9	−1·1	9·7	−0·6
3024	927	10·5	19. 56. 14·6	−2·7	8. 34. 54·5	−1·1	3086	908	9·5	20. 18. 30·6	+0·9	8. 59. 16·9	+0·6
	943	10·5	16·5	+1·6	55·5	−0·1		919	9·5	30·5	+0·7	15·8	−0·5
	945	10·5	16·2	+0·9	56·9	+1·3		940	9·5	29·6	−1·4	16·1	−0·2
3025	909	10·5	19. 56. 31·2	−0·5	8. 38. 54·7	+0·3	3087	907	9·0	20. 19. 1·4	0·0	8. 13. 40·0	+0·2
	944	10·5	31·4	0·0	54·4	0·0		909	8·5	1·5	+0·2	40·0	+0·2
	946	10·5	31·5	+0·2	54·1	−0·3		927	9·0	1·4	0·0	39·5	−0·3
3027	936	10·5	19. 57. 20·5	−0·9	8. 46. 2·5	+0·7	3090	908	10·5	20. 19. 50·3	+1·5	8. 20. 30·6	+1·0
	941	10·5	21·3	+0·9	1·4	−0·4		927	10·5	49·1	−1·1	30·2	+0·6
	946	10·5	21·0	+0·2	1·5	−0·3		940	10·5	49·4	−0·4	28·1	−1·5
3030	907	10·0	19. 58. 41·0	−0·4	7. 15. 15·5	−0·3	3095	909	10·5	20. 21. 55·6	+0·2	8. 53. 3·7	+0·4
	942	10·0	41·2	0·0	15·7	−0·1		919	10·5	55·9	+0·9	3·5	+0·2
	943	10·0	41·4	+0·4	16·1	+0·3		936	10·5	55·1	−0·9	2·6	−0·7
3031	908	9·0	19. 59. 23·7	−0·2	8. 48. 0·8	−0·3	3096	908	10·5	20. 22. 7·7	+0·7	8. 38. 49·1	+1·2
	909	9·0	23·7	−0·2	1·3	+0·2		909	10·5	7·6	+0·5	48·0	+0·1
	927	9·5	23·9	+0·2	1·2	+0·1		927	10·5	6·8	−1·4	46·7	−1·2
3032	919	10·5	19. 59. 27·3	−0·6	7. 41. 48·7	−0·4	3108	907	10·5	20. 25. 36·4	+0·2	8. 2. 3·8	+0·2
	940	11·0	28·0	+0·8	49·3	+0·2		919	10·5	36·3	0·0	3·6	0·0
	944	10·5	27·4	−0·4	49·4	+0·3		936	10·5	36·1	−0·4	3·3	−0·3
3036	907	10·0	20. 1. 11·8	+0·8	7. 22. 22·5	+0·8	3109	908	10·5	20. 26. 3·4	−0·9	8. 39. 8·2	+0·1
	914	10·0	11·0	−0·8	21·9	+0·2		909	10·5	4·2	+0·9	8·2	+0·1
	936	10·0	11·4	0·0	20·6	−1·1		927	10·5	3·8	0·0	8·0	−0·1
3037	909	10·5	20. 1. 30·6	+0·9	8. 26. 8·7	+0·1	3118	907	10·0	20. 28. 46·6	−1·4	7. 25. 19·2	+0·2
	919	10·5	30·0	−0·4	7·4	−1·2		909	10·0	47·8	+1·0	19·4	+0·4
	940	10·5	30·1	−0·2	9·8	+1·2		919	10·0	47·5	+0·4	18·4	−0·6
3041	914	9·0	20. 2. 52·9	−0·2	7. 56. 17·6	−0·3	3119	919	10·5	20. 28. 50·8	−2·5	8. 1. 58·3	+0·4
	927	9·0	52·6	−0·8	18·6	+0·7		927	10·5	52·3	+0·6	57·8	−0·1
	941	9·0	53·4	+0·8	17·6	−0·3		940	10·5	52·9	+1·9	57·7	−0·2
3045	909	10·5	20. 4. 4·5	+0·4	7. 20. 21·0	−0·6	3122	909	10·0	20. 29. 50·4	−0·2	7. 55. 17·0	+0·3
	936	10·5	4·1	−0·4	23·1	+1·5		927	10·0	50·0	−1·0	17·4	+0·7
	942	10·5	4·2	−0·2	20·6	−1·0		941	10·0	51·0	+1·0	15·7	−1·0

3016. S. f. star of 2.
3024. The second and brighter star of 2.
3059. S. f. star of 2.
3065 on 947. Half weight in N.P.D.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	o ′ ″	″
3133	919	9·0	20. 32. 4·1	+1·5	8. 6. 42·0	+0·2
	936	9·0	3·2	−0·4	40·9	−0·9
	942	8·5	3·0	−1·3	42·4	+0·6
3134	927	9·5	20. 33. 5·2	−0·2	7. 38. 8·7	+0·6
	936	9·5	5·2	−0·2	8·1	0·0
	942	9·5	5·6	+0·6	7·5	−0·6
3135	927	10·5	20. 33. 16·2	−1·5	7. 56. 11·5	−0·8
	940	10·5	17·0	+0·2	13·6	+1·3
	941	10·5	17·5	+1·3	11·8	−0·5
3139	919	10·5	20. 35. 22·4	+1·3	8. 21. 47·3	+1·0
	936	10·5	22·2	+0·9	45·0	−1·3
	941	10·5	20·9	−2·0	46·7	+0·4
3140	940	7·0	20. 35. 48·5	+1·9	9. 3. 42·6	+0·3
	942	7·0	46·9	−1·9	42·4	+0·1
	944	7·0	47·8	+0·2	42·0	−0·3
3148	927	10·5	20. 37. 1·3	+0·2	7. 24. 25·7	+0·1
	941	10·5	0·6	−1·2	24·5	−1·1
	943	10·5	1·8	+1·2	26·7	+1·1
3149	940	5·0	20. 37. 9·0	+1·2	9. 4. 35·8	−0·9
	942	5·0	8·0	−1·2	36·8	+0·1
	944	5·0	8·5	0·0	37·6	+0·9
3152	919	8·0	20. 38. 13·1	+0·6	7. 18. 49·2	+0·2
	936	9·0	12·5	−0·6	48·4	−0·6
	942	8·0	12·9	+0·2	49·4	+0·4
3153	927	10·0	20. 38. 24·4	+0·5	8. 47. 32·4	−0·7
	941	10·0	23·5	−1·6	33·6	+0·5
	943	10·0	24·6	+0·9	33·2	+0·1
3156	919	10·0	20. 40. 0·7	+0·2	7. 32. 45·8	+0·1
	940	10·0	0·9	+0·6	46·3	+0·6
	944	10·0	0·3	−0·6	45·1	−0·6
3157	936	10·5	20. 40. 34·5	−1·0	7. 29. 5·2	−0·8
	941	10·5	34·9	−0·2	5·8	−0·2
	944	10·5	35·5	+1·0	7·1	+1·1
3161	940	9·5	20. 41. 28·4	+0·2	8. 34. 10·7	−0·3
	943	9·0	28·1	−0·5	11·2	+0·2
3162	927	9·5	20. 41. 32·8	−0·5	8. 38. 29·3	+0·4
	942	9·5	32·8	−0·5	28·6	−0·3
	943	9·5	33·3	+0·7	29·1	+0·2
	946	9·5	33·0	0·0	28·7	−0·2
3164	919	10·5	20. 43. 28·4	+0·4	7. 48. 35·1	+0·2
	941	10·5	27·5	−1·4	33·8	−1·1
	944	10·5	28·8	+1·2	35·8	+0·9
3166	927	8·0	20. 44. 24·1	+0·4	8. 30. 30·3	+0·1
	936	8·0	23·8	−0·2	30·0	−0·2
	942	8·0	23·9	0·0	30·2	0·0
3168	919	10·5	20. 44. 55·9	+1·2	7. 18. 16·5	−1·8
	941	10·5	54·5	−1·5	19·8	+1·5
	943	10·5	55·4	+0·2	18·7	+0·4
3172	927	10·5	20. 45. 33·5	+0·9	8. 30. 42·9	+0·3
	936	10·5	32·6	−1·1	41·9	−0·7
	942	10·5	33·2	+0·2	42·9	+0·3
3173	940	10·0	20. 46. 5·5	+0·2	7. 37. 41·5	+0·6
	943	10·0	5·4	0·0	40·4	−0·5
	944	10·0	5·4	0·0	40·9	0·0
3174	919	10·5	20. 47. 36·2	0·0	8. 9. 48·8	+0·2
	941	10·5	35·6	−1·3	48·4	−0·2
	945	10·5	36·9	+1·5	48·7	+0·1
3176	940	10·0	20. 48. 8·1	−0·8	7. 48. 6·0	+0·6
	943	10·0	8·8	+0·6	5·5	+0·1
	946	10·0	8·5	0·0	4·7	−0·7
3177	927	10·5	20. 48. 23·9	+0·2	7. 7. 18·8	+0·2
	942	10·5	23·7	−0·2	18·0	−0·6
	944	10·5	23·8	0·0	19·0	+0·4
3178	927	10·5	20. 48. 56·2	+0·2	7. 8. 49·3	+0·6
	942	10·5	55·8	−0·6	48·5	−0·2
	944	10·5	56·4	+0·6	48·4	−0·3
3179	936	10·5	20. 49. 32·9	−0·9	8. 53. 58·8	−0·8
	941	10·5	33·1	−0·5	60·3	+0·7
	946	10·5	33·9	+1·4	59·8	+0·2
3181	919	10·0	20. 50. 4·1	−0·6	8. 1. 28·0	−0·3
	943	10·0	4·5	+0·2	28·6	+0·3
	945	10·0	4·5	+0·2	28·3	0·0
3182	940	10·5	20. 50. 22·4	+1·6	8. 43. 42·4	+0·3
	941	10·5	20·7	−2·3	42·7	+0·6
	946	10·5	22·0	+0·7	41·1	−1·0
3183	940	10·5	20. 50. 46·4	+1·0	7. 27. 37·5	−0·1
	942	10·5	45·4	−1·0	38·6	+1·0
	944	10·5	46·0	+0·2	36·8	−0·8
3186	927	9·5	20. 51. 29·2	−0·2	7. 29. 11·5	+0·3
	942	9·5	29·7	+0·8	11·4	+0·2
	946	9·5	28·9	−0·8	10·6	−0·6

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	o ′ ″	″
3189	919	7·0	20. 52. 48·6	+0·4	8. 0. 33·2	−0·4
	941	6·0	47·8	−1·3	34·0	+0·4
	945	7·0	48·8	+0·8	33·7	+0·1
3190	919	10·0	20. 52. 52·6	+1·0	7. 52. 36·9	+0·1
	936	10·5	52·0	−0·2	36·2	−0·6
	943	10·5	51·8	−0·6	37·3	+0·5
3192	940	10·5	20. 53. 57·7	+0·7	8. 22. 32·3	−0·7
	942	11·0	57·6	+0·4	33·9	+0·9
	946	10·5	56·9	−1·1	32·9	−0·1
3194	919	10·0	20. 54. 6·9	−1·0	7. 53. 7·2	+0·7
	943	10·0	7·9	+1·0	6·6	+0·1
	944	10·0	7·3	−0·2	5·7	−0·8
3195	940	10·0	20. 55. 0·9	+0·4	7. 38. 37·0	−0·2
	943	9·5	0·7	0·0	37·6	+0·4
	944	10·0	0·6	−0·2	37·1	−0·1
3203	919	9·5	20. 58. 3·3	−0·5	8. 43. 45·3	−0·2
	941	9·5	3·5	0·0	45·4	−0·1
	943	9·5	3·6	+0·2	45·8	+0·3
3206	927	10·0	20. 58. 11·9	−0·8	7. 21. 43·3	+0·1
	940	10·5	13·3	+1·9	43·7	+0·5
	942	10·5	11·6	−1·4	42·6	−0·6
3210	927	10·5	20. 59. 11·0	−1·3	8. 16. 7·0	+0·4
	942	10·5	11·8	+0·4	6·1	−0·5
	944	10·5	12·0	+0·9	6·7	+0·1
3211	919	10·5	20. 59. 22·3	0·0	8. 46. 48·3	−0·8
	941	10·5	22·5	+0·5	50·2	+1·1
	943	10·5	22·1	−0·5	48·7	−0·4
3213	936	10·5	21. 1. 0·8	−1·9	7. 56. 18·7	−0·8
	940	10·5	2·3	+1·3	18·6	−0·9
	944	10·5	2·1	+0·8	21·1	+1·6
3214	927	10·5	21. 1. 37·2	+0·4	8. 17. 21·0	−0·8
	941	10·5	36·6	−0·9	21·6	−0·2
	942	10·5	37·2	+0·4	22·9	+1·1
3217	919	9·5	21. 2. 57·2	+0·7	8. 45. 49·8	−0·1
	936	9·5	57·1	+0·5	48·8	−1·1
	941	9·5	56·5	−0·9	51·0	+1·1
3219	936	10·0	21. 5. 35·1	−1·5	7. 7. 27·3	−1·1
	940	10·0	36·3	+0·8	29·5	+1·1
	943	10·0	36·2	+0·6	28·4	0·0
3220	936	10·5	21. 6. 24·0	−0·7	9. 1. 46·4	−1·3
	942	10·0	24·4	+0·2	48·9	+1·2
	944	10·5	24·6	+0·7	47·9	+0·2
3222	940	10·0	21. 6. 59·5	0·0	7. 34. 54·3	0·0
	943	10·0	59·6	+0·2	55·1	+0·8
	944	10·0	59·5	0·0	53·5	−0·8
3225	927	9·0	21. 8. 22·9	+0·4	7. 35. 30·5	−0·6
	940	9·0	22·5	−0·4	31·5	+0·4
	943	9·0	22·8	+0·2	31·2	+0·1
3229	936	10·5	21. 11. 40·7	−0·2	8. 35. 25·4	+0·6
	941	10·5	40·7	−0·2	24·7	−0·1
	942	10·5	40·9	+0·2	24·2	−0·6
3231	927	10·5	21. 12. 3·0	−1·6	8. 50. 55·3	0·0
	940	10·5	4·2	+1·2	55·5	+0·2
	942	10·5	3·8	+0·2	55·0	−0·3
3235	927	9·5	21. 13. 24·7	+0·7	8. 18. 20·6	−0·1
	941	9·5	24·0	−0·9	20·8	+0·1
	943	9·5	24·5	+0·2	20·6	−0·1
3236	936	9·5	21. 13. 36·5	+0·4	8. 14. 49·7	−0·2
	941	9·5	35·6	−1·5	50·0	+0·1
	943	9·5	36·7	+0·9	50·0	+0·1
3238	936	10·5	21. 13. 50·4	−1·5	7. 19. 54·4	−0·1
	940	10·5	51·9	+1·4	54·1	−0·4
	942	10·5	51·2	0·0	54·9	+0·4
3242	927	10·5	21. 16. 4·7	+0·9	8. 16. 16·2	−0·3
	941	10·5	3·6	−1·5	17·4	+0·9
	944	10·5	4·7	+0·9	16·0	−0·5
3244	936	10·5	21. 16. 34·9	0·0	7. 46. 18·7	−1·3
	940	10·0	35·2	+0·6	20·9	+0·9
	943	10·0	34·7	−0·4	20·4	+0·4
3245	936	10·0	21. 17. 26·9	−1·7	7. 50. 32·7	−0·9
	940	10·0	27·6	−0·2	34·7	+1·1
	943	10·0	28·5	+1·7	33·3	−0·3
3246	941	10·5	21. 18. 25·0	−1·1	8. 18. 49·3	−0·4
	942	10·5	25·6	+0·2	48·8	−0·9
	945	10·5	26·0	+1·1	51·1	+1·4
3247	927	10·5	21. 19. 37·3	+1·1	7. 12. 49·5	−1·1
	942	10·5	36·2	−1·0	49·9	−0·7
	947	10·5	36·7	0·0	52·3	+1·7
3250	940	10·5	21. 19. 56·4	−0·7	9. 4. 51·0	−0·9
	944	10·5	56·9	+0·5	52·2	+0·3
	946	10·5	56·9	+0·5	52·4	+0·5

3164. The second and brighter star of 2.
3219. The second and brighter star of 2.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
3251	941	10·0	21. 20. 9·9	−0·4	7. 34. 37·9	+0·5
	943	10·0	10·1	0·0	36·5	−0·9
	945	10·0	10·3	+0·4	37·7	+0·3
3255	927	10·5	21. 21. 17·6	0·0	8. 25. 24·0	+0·2
	944	10·5	17·5	−0·2	23·2	−0·6
	947	10·5	17·7	+0·2	24·3	+0·5
3257	942	10·5	21. 21. 59·0	+0·2	8. 32. 36·8	+0·4
	944	10·5	59·3	+0·9	36·2	−0·2
	946	10·5	58·3	−1·4	36·1	−0·3
3258	940	10·5	21. 22. 8·8	−0·2	7. 31. 35·3	−1·3
	943	10·5	9·1	+0·4	36·5	−0·1
	957	10·5	8·9	0·0	37·9	+1·3
3261	941	9·0	21. 23. 32·3	−1·2	8. 51. 30·3	−0·5
	947	9·0	32·9	+0·2	32·0	+1·2
	964	8·5	33·2	+0·9	30·0	−0·8
3263	940	9·0	21. 24. 41·3	+0·7	8. 36. 10·2	+1·7
	945	9·0	40·9	−0·2	8·0	−0·5
	975	9·0	40·8	−0·5	7·4	−1·1
3266	943	9·0	21. 25. 10·5	+0·6	8. 6. 26·7	+0·5
	946	9·0	10·3	+0·2	25·9	−0·3
	975	9·0	9·8	−0·9	25·9	−0·3
3268	941	10·0	21. 25. 40·7	−0·9	8. 54. 33·3	+0·4
	946	10·0	41·2	+0·2	32·7	−0·2
	964	10·0	41·4	+0·7	32·6	−0·3
3269	943	10·5	21. 26. 21·6	−0·2	9. 2. 3·1	−0·7
	944	10·0	22·1	+1·0	4·6	+0·8
	964	10·5	21·3	−1·0	3·7	−0·1
3272	940	10·0	21. 27. 29·4	+0·7	8. 35. 13·7	−0·1
	941	10·0	28·7	−0·9	13·9	+0·1
	946	10·0	29·2	+0·2	13·9	+0·1
3282	940	10·5	21. 29. 56·8	+3·4	8. 0. 38·7	+0·1
	943	10·5	54·7	−1·1	38·5	−0·1
	946	10·5	54·2	−2·1	38·7	+0·1
3283	942	9·5	21. 30. 11·8	−0·6	7. 39. 9·9	−0·6
	945	9·5	13·0	+1·8	10·6	+0·1
	947	9·5	11·5	−1·2	10·9	+0·4
3287	936	10·5	21. 30. 55·6	−0·7	8. 25. 13·9	−0·7
	944	10·5	56·0	+0·2	15·5	+0·9
	957	10·5	56·1	+0·4	14·5	−0·1
3290	936	9·5	21. 32. 22·1	0·0	8. 54. 4·4	−0·2
	942	9·0	22·0	−0·2	3·9	−0·7
	947	9·0	22·1	0·0	5·6	+1·0
3291	940	9·5	21. 32. 31·9	+0·6	7. 21. 12·3	+0·2
	941	9·0	31·7	+0·2	12·7	+0·6
	946	9·5	31·2	−0·8	11·2	−0·9
3298	940	10·0	21. 34. 1·7	+1·3	8. 9. 2·0	+0·7
	942	10·0	1·0	−0·2	1·3	0·0
	944	10·0	0·7	−0·9	0·6	−0·7
3300	936	10·5	21. 34. 30·6	+0·8	7. 56. 55·8	+0·2
	943	10·5	29·8	−0·8	56·3	+0·7
	946	10·0	30·1	−0·2	54·6	+1·0
3301	941	9·0	21. 34. 56·1	+0·4	7. 12. 19·9	−0·2
	945	9·5	36·4	+1·0	20·2	+0·1
	947	9·5	35·1	−1·5	20·2	+0·1
3304	942	10·0	21. 35. 19·7	−0·4	8. 26. 44·9	−0·2
	944	10·0	20·1	+0·4	45·6	+0·5
	957	9·5	20·0	−0·2	44·7	−0·4
3306	940	10·5	21. 35. 35·7	+0·4	8. 23. 32·8	−1·2
	943	10·5	35·3	−0·4	34·1	+0·1
	957	10·5	35·6	+0·2	35·1	+1·1
3311	936	10·5	21. 38. 15·1	−0·4	8. 13. 9·7	−0·1
	941	10·5	14·8	−1·1	10·4	+0·6
	945	10·5	16·0	+1·5	9·2	−0·6
3312	940	10·5	21. 38. 53·7	+0·9	8. 45. 54·0	+1·1
	943	10·5	53·5	+0·5	52·9	0·0
	946	10·5	52·8	−1·2	51·8	−1·1
3314	941	10·5	21. 40. 4·3	−0·8	7. 23. 10·7	+2·6
	944	10·5	4·9	+0·4	7·3	−0·8
	946	10·5	5·0	+0·6	6·4	−1·7
3315	942	10·0	21. 40. 41·0	0·0	8. 4. 39·7	−0·6
	944	10·0	40·8	−0·4	40·7	+0·4
	947	10·0	41·1	+0·2	40·5	+0·2
3316	940	10·5	21. 41. 22·2	+1·3	8. 1. 11·7	−1·0
	944	10·5	20·9	−1·5	9·6	+1·1
	947	10·0	21·7	+0·2	10·7	0·0
3319	942	10·0	21. 42. 19·0	−0·2	7. 35. 8·2	+0·1
	943	10·0	18·9	−0·4	8·1	0·0
	957	10·0	19·5	+0·8	7·9	−0·2
3320	941	10·0	21. 42. 23·7	−0·6	7. 39. 54·4	+0·2
	945	10·0	24·2	+0·4	54·3	+0·1
	946	10·0	24·1	+0·2	54·0	−0·2

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	s	° ′ ″	″
3323	940	9·5	21. 43. 46·0	+0·6	7. 44. 21·0	+0·7
	943	9·0	45·8	+0·2	19·9	−0·4
	946	9·0	45·3	−0·8	20·0	−0·3
3324	942	10·0	21. 43. 59·8	−0·2	8. 33. 0·5	−0·6
	947	9·5	60·1	+0·5	2·2	+1·1
	957	10·0	59·8	−0·2	0·6	−0·5
3325	942	10·0	21. 44. 2·4	−0·5	8. 50. 51·6	0·0
	944	10·0	2·9	+0·7	51·3	−0·3
	964	10·5	2·6	0·0	51·9	+0·3
3326	941	10·0	21. 44. 13·5	−0·2	8. 39. 29·1	+0·2
	945	10·0	14·1	+1·1	28·5	−0·4
	957	10·0	13·3	−0·7	29·1	+0·2
3328	940	10·0	21. 45. 26·3	−0·8	7. 55. 46·8	+0·5
	943	10·0	27·0	+0·6	46·0	−0·3
	964	10·0	26·7	0·0	46·2	−0·1
3330	941	10·5	21. 45. 59·0	+1·1	7. 13. 23·7	0·0
	944	10·5	57·6	−1·5	23·4	−0·3
	947	10·5	58·7	+0·6	24·1	+0·4
3332	940	10·5	21. 47. 20·5	+1·0	7. 55. 34·8	−1·0
	946	10·5	19·5	−1·0	36·0	+0·2
	964	10·5	20·0	0·0	36·5	+0·7
3333	942	10·0	21. 47. 32·8	−1·3	8. 1. 44·8	−0·7
	945	10·0	33·6	+0·4	46·0	+0·5
	947	10·0	33·9	+1·1	45·6	+0·1
3335	941	10·5	21. 48. 45·7	−0·9	8. 32. 56·4	−0·8
	946	10·5	46·3	+0·5	57·8	+0·6
	964	10·5	46·3	+0·5	57·4	+0·2
3336	942	10·0	21. 49. 11·7	−1·1	8. 19. 17·2	+0·4
	947	10·0	12·6	+0·9	16·5	−0·3
	977	10·0	12·4	+0·4	16·7	−0·1
3338	940	10·5	21. 49. 54·0	+0·4	8. 7. 29·7	+1·3
	944	10·5	54·6	+1·7	27·6	−0·8
	957	10·5	52·7	−2·4	27·9	−0·5
3342	944	10·5	21. 50. 25·9	0·0	8. 26. 11·1	+0·6
	964	10·5	25·7	−0·4	9·7	−0·8
	977	10·0	26·0	+0·2	10·8	+0·3
3343	941	9·0	21. 50. 44·0	+0·2	7. 35. 53·8	+0·8
	957	9·0	43·6	−0·6	52·8	−0·2
	975	9·0	44·1	+0·4	52·3	−0·7
3348	943	10·5	21. 53. 1·9	0·0	8. 57. 47·1	+0·7
	946	10·5	1·7	−0·5	46·8	+0·4
	964	10·5	2·1	+0·5	45·4	−1·0
3349	942	10·0	21. 53. 2·9	−0·2	8. 12. 28·3	+0·1
	945	10·0	3·1	+0·2	27·9	−0·3
	947	10·0	3·0	0·0	28·4	+0·2
3350	943	10·0	21. 53. 26·2	+0·2	7. 38. 56·0	+0·1
	944	10·0	26·2	+0·2	56·1	+0·2
	957	10·0	25·8	−0·6	55·6	−0·3
3355	941	10·5	21. 54. 7·3	+1·2	7. 49. 3·2	−0·3
	946	10·5	6·6	−0·2	4·3	+0·8
	947	10·5	6·1	−1·2	2·9	−0·6
3363	940	9·5	21. 56. 29·0	+2·5	7. 13. 50·2	0·0
	942	9·5	26·8	−1·7	49·9	−0·3
	944	9·5	27·2	−1·0	50·5	+0·3
3366	941	10·5	21. 57. 13·6	−0·9	7. 29. 47·7	+0·1
	942	10·5	13·7	−0·7	46·4	−1·2
	945	10·5	14·8	+1·8	48·7	+1·1
3373	941	10·0	22. 0. 11·4	−0·7	8. 23. 50·8	−0·2
	944	10·0	11·7	0·0	51·1	+0·1
	947	10·0	11·9	+0·4	51·1	+0·1
3377	940	10·0	22. 1. 0·9	+0·6	7. 36. 40·7	+0·1
	945	10·0	0·8	+0·4	40·5	−0·1
	957	10·0	0·0	−1·2	40·6	0·0
3378	940	10·5	22. 1. 7·4	+0·5	8. 39. 12·6	−0·5
	946	10·5	6·9	−0·7	13·5	+0·4
	964	10·5	7·4	+0·5	13·2	+0·1
3379	942	10·5	22. 1. 49·7	+0·2	9. 3. 35·2	+0·6
	946	10·5	49·3	−0·7	34·0	−0·6
	964	10·5	49·7	+0·2	34·6	0·0
3381	941	10·5	22. 2. 8·6	−1·2	7. 22. 50·5	−0·7
	947	10·0	9·8	+1·2	51·7	+0·5
	957	10·0	9·3	−0·2	51·4	+0·2
3383	942	10·0	22. 2. 39·9	−0·7	8. 51. 16·1	−0·6
	945	10·0	40·2	0·0	16·4	−0·3
	977	10·0	40·4	+0·5	17·7	+1·0
3386	944	9·0	22. 3. 9·1	−0·2	7. 12. 24·2	−0·4
	947	9·0	9·4	+0·4	24·9	+0·3
	975	9·0	9·2	0·0	24·6	0·0
3387	940	9·5	22. 3. 11·8	+0·6	7. 49. 46·2	+0·3
	957	9·0	11·3	−0·4	45·4	−0·5
	975	9·0	11·3	−0·4	46·1	+0·2

3251 on 941. 2s have been added to the recorded time of transit. The original numbers explain the nature of the error.
3266. Double. Observed as if single.
3323. Also double, and observed as if single.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.	No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″				h m s	″	° ′ ″	″
3389	940	9·5	22. 3. 18·5	+0·4	7. 49. 42·6	−0·1	3456	942	10·5	22. 28. 54·6	−0·2	7. 49. 16·2	−0·2
	957	9·0	17·8	−1·0	42·9	+0·2		947	10·5	55·2	+1·0	16·8	+0·4
	975	9·0	18·5	+0·4	42·6	−0·1		975	10·5	54·2	−1·0	16·1	−0·3
3391	941	10·5	22. 5. 4·5	−0·2	7. 9. 52·3	+0·4	3459	945	9·5	22. 29. 25·0	+0·5	8. 35. 21·1	+1·0
	944	10·5	4·3	−0·6	51·0	−0·9		964	9·5	24·9	+0·2	20·3	+0·2
	947	10·5	5·1	+0·9	52·5	+0·6		975	9·5	24·4	−0·9	18·8	−1·3
3394	942	10·5	22. 5. 44·6	−1·5	8. 20. 60·4	+0·4	3462	945	10·0	22. 30. 20·1	+0·7	8. 52. 11·9	+0·5
	945	10·5	46·0	+1·5	60·6	+0·6		957	10·0	19·6	−0·5	11·1	−0·3
	946	10·5	45·3	0·0	58·9	−1·1		977	10·0	19·7	−0·2	11·3	−0·1
3403	940	10·5	22. 8. 19·0	0·0	7. 59. 22·9	+1·4	3463	946	10·5	22. 30. 22·2	+0·6	7. 58. 53·5	−0·2
	944	10·0	19·0	0·0	21·4	−0·1		957	10·5	22·1	+0·4	52·6	−1·1
	957	10·0	19·1	−0·2	20·1	−1·4		977	10·5	21·3	−1·3	54·9	+1·2
3404	941	10·5	22. 8. 31·7	−2·1	8. 7. 12·8	+0·8	3464	942	10·5	22. 30. 32·9	+0·2	7. 34. 7·5	−0·6
	942	10·5	33·2	+1·1	11·6	−0·4		947	10·5	32·8	0·0	8·3	+0·2
	957	10·5	33·3	+1·3	11·6	−0·4		978	10·5	32·8	0·0	8·6	+0·5
3407	943	10·5	22. 9. 22·0	−0·9	8. 13. 1·0	+0·4	3468	946	10·0	22. 31. 36·4	+2·5	8. 40. 27·1	+0·3
	944	10·5	22·9	+1·1	0·2	−0·4		947	—	34·9	−0·9	27·1	+0·3
	946	10·5	22·3	−0·2	0·6	0·0		964	10·0	34·5	−1·8	26·1	−0·7
3408	941	9·0	22. 9. 58·4	−1·5	8. 3. 10·8	+0·7	3470	940	10·0	22. 36. 47·9	+0·4	8. 28. 24·6	+0·7
	947	9·0	59·5	+0·9	10·3	+0·2		944	10·0	47·4	−0·7	23·1	−0·8
	975	9·0	59·4	+0·6	9·2	−0·9		946	10·0	47·9	+0·4	23·9	0·0
3409	940	10·5	22. 9. 59·3	−1·0	7. 55. 35·3	+0·9	3471	698	10·5	22. 37. 3·7	−0·2	7. 5. 18·7	+0·2
	945	10·0	60·0	+0·4	34·6	+0·2		942	10·5	3·5	−0·6	18·2	−0·3
	957	10·5	60·1	+0·6	33·3	−1·1		945	10·5	4·3	+0·9	18·6	+0·1
3410	942	10·5	22. 10. 11·0	−0·9	8. 32. 18·9	+0·1	3472	698	9·5	22. 37. 14·7	−1·4	8. 41. 40·5	+0·5
	947	10·5	11·3	−0·2	18·6	−0·2		944	9·5	15·7	+0·9	39·6	−0·4
	964	10·5	11·8	+0·9	18·8	0·0		946	9·0	15·4	+0·2	39·9	−0·1
3413	943	10·5	22. 11. 6·8	0·0	7. 12. 22·2	0·0	3475	698	10·5	22. 39. 30·9	−1·2	7. 44. 34·7	−0·1
	946	10·5	6·1	−1·3	21·9	−0·3		942	10·5	31·8	+0·6	35·2	+0·4
	975	10·5	7·4	+1·1	22·5	+0·3		945	10·5	31·9	+0·8	34·4	−0·4
3415	940	10·5	22. 12. 17·1	+0·2	7. 56. 47·5	+1·2	3481	698	10·0	22. 41. 51·3	−0·2	7. 58. 47·4	−0·1
	941	10·5	15·9	−2·3	45·6	−0·7		940	10·5	51·0	−0·8	48·2	+0·7
	957	10·5	18·1	+2·3	45·9	−0·4		957	10·0	52·0	+1·3	46·9	−0·6
3418	940	9·5	22. 14. 8·2	+2·1	7. 8. 16·1	+0·5	3482	944	10·5	22. 42. 22·6	+1·3	8. 27. 26·9	+1·0
	941	9·5	6·0	−2·1	15·4	−0·2		946	10·5	21·9	−0·2	25·8	−0·1
	942	9·5	7·1	0·0	15·2	−0·4		964	10·5	21·6	−0·9	25·1	−0·8
3426	940	10·0	22. 17. 35·3	+0·4	8. 21. 43·4	+0·4	3483	942	8·5	22. 42. 46·4	−0·2	8. 51. 55·0	−0·3
	942	10·0	34·9	−0·4	42·7	−0·3		947	8·0	46·3	−0·5	55·4	+0·1
	943	10·0	35·0	−0·2	43·0	0·0		975	9·0	46·7	+0·5	55·4	+0·1
3429	941	10·5	22. 19. 8·4	−3·0	8. 2. 30·1	+0·4	3485	945	10·0	22. 43. 10·1	+0·4	7. 35. 30·5	+0·4
	942	10·5	10·2	+0·8	28·6	−1·1		946	10·0	9·5	−0·8	30·0	−0·1
	944	10·5	10·7	+1·9	30·5	+0·8		976	10·0	10·2	+0·6	29·7	−0·4
3430	940	10·5	22. 20. 5·4	+1·8	7. 42. 19·1	+1·2	3486	944	9·0	22. 43. 10·6	+0·2	8. 16. 7·3	−0·1
	943	10·5	3·9	−1·2	17·3	−0·6		957	9·0	10·8	+0·7	7·5	+0·1
	946	10·5	4·3	−0·4	17·4	−0·5		977	9·0	10·2	−0·7	7·4	0·0
3433	942	10·0	22. 21. 47·9	−0·8	7. 59. 50·1	−0·2	3489	942	10·0	22. 43. 59·8	−1·4	8. 49. 57·0	−0·7
	945	10·0	48·7	+0·8	51·1	+0·8		947	9·5	60·6	+0·5	57·7	0·0
	946	10·0	48·4	+0·2	49·8	−0·5		975	10·0	60·9	+1·2	58·5	+0·8
3434	941	10·5	22. 22. 2·6	+0·5	8. 33. 49·6	+1·3	3490	698	9·0	22. 44. 7·0	+0·2	7. 29. 32·1	−0·3
	944	10·5	2·8	+0·9	47·8	−0·5		964	9·0	7·2	+0·6	32·3	−0·1
	947	10·5	1·8	−1·4	47·6	−0·7		976	9·0	6·4	−1·0	32·8	+0·4
3435	941	10·0	22. 22. 20·7	−0·2	8. 34. 38·3	+0·7	3492	944	10·5	22. 45. 12·0	−0·2	8. 15. 37·9	−0·2
	944	10·0	20·8	0·0	37·2	−0·4		957	10·0	12·1	0·0	37·2	−0·9
	947	10·0	20·9	+0·2	37·2	−0·4		977	10·0	12·2	+0·2	39·3	+1·2
3437	940	10·0	22. 23. 4·8	+2·2	7. 45. 54·1	+0·2	3495	944	10·0	22. 45. 40·9	−0·2	8. 30. 32·4	−0·9
	943	10·0	3·2	−1·0	53·9	0·0		947	10·0	41·2	+0·4	34·4	+1·1
	975	10·0	3·2	−1·0	53·7	−0·2		964	10·5	40·9	−0·2	33·0	−0·3
3438	942	9·5	22. 23. 8·5	−0·6	7. 12. 4·1	−0·4	3497	945	10·5	22. 46. 12·8	+2·1	8. 4. 9·6	−1·2
	946	9·5	9·2	+0·8	4·8	+0·3		957	10·5	12·0	+0·4	11·1	+0·3
	964	9·5	8·8	0·0	4·7	+0·2		977	10·5	10·6	−2·6	11·8	+1·0
3439	945	10·5	22. 23. 46·5	+0·2	8. 26. 45·1	+0·5	3499	946	10·5	22. 46. 59·4	−0·6	7. 58. 40·5	−0·9
	957	10·5	47·1	+1·6	44·0	−0·6		957	10·5	60·5	+1·7	41·5	+0·1
	977	10·5	45·7	−1·6	(52·3)	—		977	10·5	59·3	−0·8	42·2	+0·8
3440	942	8·0	22. 24. 3·6	0·0	8. 48. 1·1	0·0	3500	698	10·5	22. 47. 46·5	0·0	7. 31. 9·3	−0·5
	947	8·5	3·6	0·0	1·3	+0·2		975	10·5	46·2	−0·6	11·0	+1·2
	975	8·0	3·7	+0·2	0·9	−0·2		978	10·5	46·7	+0·4	9·2	−0·6
3442	944	10·5	22. 24. 20·7	−0·4	8. 18. 58·0	+0·8	3502	698	6·0	22. 47. 55·5	+0·2	7. 36. 55·6	+0·3
	964	10·5	20·8	−0·2	55·5	−1·7		942	5·0	56·0	+1·2	55·5	+0·2
	978	10·5	21·3	+0·9	58·0	+0·8		976	5·0	54·7	−1·4	54·8	−0·5
3443	940	10·0	22. 24. 37·9	−0·2	8. 14. 61·5	+1·1	3503	944	10·5	22. 48. 4·8	+1·8	8. 29. 30·7	−0·8
	946	10·0	38·5	+1·1	58·9	−1·5		964	10·5	3·5	−1·1	32·4	+0·9
	975	10·0	37·5	−1·1	60·7	+0·3		976	10·5	3·7	−0·7	31·5	0·0
3445	946	10·5	22. 25. 17·7	−0·4	8. 15. 27·2	+1·4	3504	946	9·0	22. 48. 14·7	−0·7	8. 49. 47·0	−0·3
	957	10·5	18·5	+1·3	25·0	−0·8		947	9·0	15·7	+1·6	47·9	+0·6
	964	11·0	17·4	−1·1	25·1	−0·7		989	9·0	14·6	−0·9	47·0	−0·3
3448	941	10·0	22. 26. 42·7	−1·8	8. 21. 42·9	+0·8	3505	945	9·0	22. 48. 48·5	−0·2	7. 4. 32·2	−0·4
	942	10·5	43·7	+0·4	41·2	−0·9		964	9·0	48·2	−0·7	32·7	+0·1
	944	10·0	44·0	+1·1	42·1	0·0		975	9·0	49·0	+0·7	32·9	+0·3
3455	941	10·5	22. 28. 44·9	+0·2	8. 19. 48·5	+1·0	3506	946	10·5	22. 49. 32·3	−0·5	8. 54. 1·1	−0·6
	957	10·5	44·6	−0·4	46·8	−0·7		947	10·5	33·1	+1·4	2·1	+0·4
	978	10·5	44·8	0·0	47·3	−0·2		978	10·5	32·1	−0·9	1·8	+0·1

3439 on 977. N.P.D. bad. Rejected.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3507	942	10·0	22. 50. 5·1	−0·7	8. 47. 2·7	+0·1
	947	9·5	5·9	+1·2	2·4	−0·2
	989	9·5	5·2	−0·5	2·7	+0·1
3508	944	10·5	22. 50. 29·9	−0·9	8. 21. 28·9	−0·6
	957	10·5	30·6	+0·7	28·5	−1·0
	977	10·5	30·5	+0·4	31·2	+1·7
3511	942	10·0	22. 51. 6·3	−0·9	8. 43. 2·9	+0·2
	964	10·0	7·0	+0·7	3·7	+1·0
	975	10·5	6·8	+0·2	1·5	−1·2
3514	942	9·0	22. 53. 5·2	−0·2	8. 50. 18·1	+0·2
	944	9·0	5·3	0·0	18·6	+0·7
	957	9·0	5·3	0·0	17·1	−0·8
3518	946	10·5	22. 53. 56·7	−0·2	7. 50. 27·5	−0·2
	947	10·5	57·3	+1·0	29·2	+1·5
	957	10·5	56·5	−0·6	26·5	−1·2
3523	944	10·0	22. 54. 59·3	+1·8	8. 39. 28·9	−0·9
	945	10·0	57·5	−2·3	29·9	+0·1
	964	10·0	58·6	+0·2	30·7	+0·9
3526	945	10·0	22. 55. 53·5	+0·2	7. 29. 36·0	−0·5
	947	10·0	53·8	+0·8	36·4	−0·1
	964	10·0	53·0	−0·8	37·2	+0·7
3527	944	9·0	22. 56. 27·5	0·0	7. 43. 27·3	−0·4
	946	9·0	26·9	−1·2	27·2	−0·3
	957	9·5	28·2	+1·4	26·2	+0·7
3531	946	9·5	22. 57. 36·7	−0·2	9. 1. 2·9	−0·4
	947	9·5	37·4	+1·4	4·7	+1·4
	975	10·0	36·4	−1·0	2·3	−1·0
3534	944	10·5	22. 58. 34·1	+2·1	9. 3. 18·0	+1·3
	946	10·5	33·6	+1·0	16·7	0·0
	975	10·5	31·9	−3·1	15·5	−1·2
3535	698	10·0	22. 58. 53·8	−0·2	8. 4. 48·6	+0·8
	947	10·0	54·5	+0·9	47·8	0·0
	957	10·0	53·9	−0·4	47·1	−0·7
3536	690	10·5	23. 0. 47·0	−0·2	8. 15. 58·2	−0·4
	696	10·0	46·8	−0·7	59·6	+1·0
	964	10·5	47·4	+0·7	57·9	−0·7
3537	946	10·5	23. 0. 46·6	−1·1	8. 31. 56·0	−0·5
	957	10·5	47·9	+1·8	56·8	+0·3
	977	10·0	46·8	−0·7	56·8	+0·3
3538	945	9·0	23. 0. 57·0	+0·9	8. 55. 30·8	+1·0
	975	9·0	56·7	+0·2	28·5	−1·3
	976	9·5	56·2	−0·9	30·0	+0·2
3539	698	10·0	23. 1. 31·4	−0·9	8. 51. 13·0	−0·3
	964	10·0	32·0	+0·5	13·8	+0·5
	976	10·0	32·0	+0·5	13·1	−0·2
3540	945	10·0	23. 2. 32·4	+0·7	8. 59. 30·7	+0·8
	964	10·0	31·7	−1·0	30·2	+0·3
	975	10·0	32·1	0·0	28·9	−1·0
3542	696	10·0	23. 3. 38·0	−0·6	7. 58. 29·5	+0·7
	698	10·0	37·9	−0·8	29·7	+0·9
	976	10·5	39·1	+1·7	27·3	−1·5
3549	957	10·0	23. 6. 24·1	0·0	7. 11. 49·7	−0·1
	964	10·5	24·6	+0·9	49·1	−0·7
	976	10·0	23·6	−0·9	50·6	+0·8
3551	690	10·0	23. 6. 44·0	+1·1	7. 58. 33·9	−0·3
	696	10·0	43·5	0·0	34·4	+0·2
	698	10·0	43·0	−1·1	34·4	+0·2
3552	945	9·0	23. 6. 45·9	+0·2	8. 12. 13·5	+0·1
	957	9·0	45·9	+0·2	13·4	0·0
	975	9·0	45·7	−0·2	13·4	0·0
3553	690	9·5	23. 7. 25·8	+0·7	8. 24. 51·0	+0·5
	717	9·5	25·4	−0·2	49·9	−0·6
	978	9·5	25·3	−0·4	50·7	+0·2
3555	696	9·5	23. 8. 9·2	0·0	8. 58. 13·8	+0·3
	957	10·0	9·7	+1·2	14·2	+0·7
	975	10·0	8·6	−1·4	12·4	−1·1
3556	698	10·5	23. 8. 22·7	0·0	8. 51. 46·8	+0·4
	964	10·5	23·3	+1·4	46·3	−0·1
	977	10·0	22·2	−1·2	46·2	−0·2
3561	690	9·0	23. 9. 32·2	−1·1	8. 23. 51·7	+0·6
	717	8·0	33·0	+0·7	51·2	+0·1
	976	8·0	33·0	+0·7	50·5	−0·6
3562	696	9·5	23. 9. 36·1	+0·5	9. 0. 19·9	+0·7
	957	10·0	35·9	0·0	18·6	−0·6
	977	9·5	35·8	−0·2	19·2	0·0
3564	945	10·0	23. 10. 13·6	+1·9	7. 16. 57·6	+0·9
	964	10·0	13·0	+0·8	55·9	−0·8
	975	10·5	11·3	−2·5	56·5	−0·2
3570	696	10·5	23. 11. 16·8	−0·2	9. 1. 48·0	0·0
	698	10·5	16·7	−0·5	48·8	+0·8
	977	10·5	17·1	+0·5	47·1	−0·9
3574	698	10·0	23. 12. 45·5	+0·6	7. 20. 39·4	−0·3
	957	10·0	45·0	−0·4	40·5	+0·8
	978	10·0	45·2	0·0	39·1	−0·6
3575	690	9·0	23. 12. 57·4	−0·6	7. 48. 43·6	+1·3
	717	10·0	57·9	+0·4	42·4	+0·1
	975	10·5	57·8	+0·2	40·9	−1·4
3576	698	10·0	23. 12. 58·0	+0·4	7. 20. 39·4	−0·2
	957	10·0	57·8	0·0	40·5	+0·9
	978	10·0	57·7	−0·2	39·0	−0·6
3579	945	9·5	23. 14. 35·8	+0·9	8. 37. 9·0	−0·2
	964	9·5	35·2	−0·5	9·1	−0·1
	977	9·5	35·1	−0·7	9·4	+0·2
3580	696	8·5	23. 14. 36·5	+0·7	8. 28. 14·6	−0·1
	704	9·0	36·2	0·0	15·2	+0·5
	976	8·0	36·0	−0·4	14·3	−0·4
3581	690	10·0	23. 15. 22·4	−1·2	7. 46. 55·6	+0·6
	696	10·0	23·7	+1·4	55·3	+0·3
	989	10·0	23·0	0·0	54·1	−0·9
3582	698	10·0	23. 15. 31·0	−0·7	8. 48. 1·5	−0·5
	717	10·5	31·5	+0·5	3·2	+1·2
	977	10·5	31·5	+0·5	1·2	−0·8
3584	957	10·0	23. 15. 37·3	0·0	7. 34. 39·7	+0·5
	964	10·0	36·9	−0·8	38·5	−0·7
	989	9·5	37·7	+0·8	39·4	+0·2
3587	690	9·5	23. 16. 54·9	+0·5	8. 56. 44·2	+0·7
	964	9·5	54·2	−1·2	43·3	−0·2
	975	9·5	54·9	+0·5	42·9	−0·6
3588	696	10·5	23. 16. 58·5	−1·7	8. 59. 28·0	−0·1
	957	10·5	59·9	+1·7	28·7	+0·6
	978	10·5	59·2	0·0	27·7	−0·4
3590	704	10·5	23. 17. 26·9	−0·2	8. 49. 30·2	+0·5
	717	10·0	26·9	−0·2	29·1	−0·6
	977	10·0	27·1	+0·2	29·9	+0·2
3592	945	10·0	23. 18. 7·8	+0·4	7. 4. 19·0	0·0
	964	10·5	7·4	−0·4	19·5	+0·5
	977	10·0	7·5	−0·2	18·6	−0·4
3598	696	10·0	23. 20. 51·2	0·0	8. 2. 5·0	+0·1
	698	10·0	51·5	+0·6	4·7	−0·2
	957	10·5	50·9	−0·6	5·1	+0·2
3602	698	10·5	23. 22. 51·1	−0·4	7. 55. 35·7	−0·9
	717	10·5	52·0	+1·5	36·0	−0·6
	978	10·5	50·8	−1·0	38·0	+1·4
3604	704	10·0	23. 23. 9·8	−0·6	7. 2. 18·7	−0·2
	964	9·5	9·8	−0·6	18·3	−0·6
	975	10·0	10·8	+1·3	19·6	+0·7
3605	957	10·5	23. 23. 35·7	+1·8	8. 39. 43·5	+1·1
	977	10·5	34·6	−0·7	42·6	+0·2
	978	10·5	34·4	−1·1	41·0	−1·4
3609	964	10·0	23. 24. 52·5	−0·2	8. 18. 46·1	+0·7
	975	10·0	52·2	−0·9	44·7	−0·7
	989	10·0	53·2	+1·3	45·5	+0·1
3613	698	10·0	23. 25. 43·5	−0·2	8. 33. 9·2	−1·1
	957	10·5	43·9	+0·7	11·0	+0·7
	977	10·0	43·4	−0·5	10·7	+0·4
3616	977	10·5	23. 25. 55·5	−0·7	8. 32. 33·7	−0·6
	978	10·5	55·6	−0·5	33·4	−0·9
	989	10·5	56·2	+0·9	35·8	+1·5
3622	698	10·0	23. 27. 50·0	+0·6	7. 42. 53·5	+0·2
	717	10·5	50·1	+0·8	52·8	−0·5
	975	10·0	49·0	−1·4	53·7	+0·4
3623	957	10·0	23. 29. 15·9	−0·8	7. 21. 5·2	−0·2
	977	10·0	16·4	+0·2	6·0	+0·6
	978	10·0	16·5	+0·4	5·1	−0·3
3625	698	9·5	23. 29. 41·2	−0·4	7. 44. 52·7	−0·7
	717	9·5	41·6	+0·4	54·3	+0·9
	989	9·5	41·3	−0·2	53·3	−0·1
3627	975	10·5	23. 31. 27·9	+0·2	7. 30. 15·2	−0·3
	977	10·5	28·2	+0·8	16·3	+0·8
	978	10·5	27·4	−0·8	14·9	−0·6
3628	705	10·0	23. 31. 40·1	+0·6	7. 2. 49·4	−0·2
	957	10·0	39·3	−0·9	51·0	+1·4
	989	10·0	40·1	+0·6	48·5	−1·1
3629	957	9·0	23. 31. 50·3	−0·6	7. 35. 53·6	+0·8
	964	9·0	50·4	−0·4	52·8	0·0
	992	9·0	51·2	+1·2	52·1	−0·7
3631	964	10·5	23. 32. 19·2	+0·8	7. 55. 6·6	+0·4
	977	10·0	18·9	+0·2	6·6	+0·4
	978	10·5	18·4	−0·8	5·5	−0·7
3635	705	10·5	23. 33. 49·7	+0·6	7. 11. 26·6	+0·6
	717	10·5	49·2	−0·4	26·3	+0·3
	989	10·5	49·4	0·0	25·2	−0·8

3555. N. p. star of a Double, whose components are of about equal magnitude.
3574 is a very little more South than 3576.

THIRD SUBZONE.

No.	Day.	Mag.	R.A.	Exc.	N.P.D.	Exc.
			h m s	″	° ′ ″	″
3636	705	10·5	23. 34. 52·8	−0·4	7. 57. 24·8	+0·7
	976	10·5	53·5	+1·1	24·4	+0·3
	978	10·5	52·7	−0·6	23·1	−1·0
3637	957	9·0	23. 34. 58·1	−0·7	8. 49. 9·7	−0·2
	975	9·5	58·6	+0·5	10·0	+0·1
	992	9·5	58·5	+0·2	10·1	+0·2
3639	957	10·5	23. 35. 17·7	0·0	8. 2. 46·3	+0·3
	977	10·5	18·3	+1·3	46·2	+0·2
	978	10·5	17·2	−1·1	45·4	−0·6
3640	698	10·5	23. 35. 20·2	−1·0	7. 24. 60·1	+0·6
	717	10·5	21·0	+0·6	58·7	−0·8
	977	10·0	20·9	+0·4	59·7	+0·2
3641	704	9·5	23. 35. 50·7	−0·2	7. 55. 49·2	−0·3
	711	9·5	51·0	+0·4	50·5	+1·0
	989	9·0	50·8	0·0	48·9	−0·6
3649	690	10·5	23. 38. 20·7	+1·3	8. 11. 12·3	−0·1
	698	10·0	19·4	−1·5	12·4	0·0
	717	10·0	20·2	+0·2	12·5	+0·1
3651	703	10·5	23. 39. 35·7	−2·0	7. 31. 41·5	−0·8
	705	10·5	38·1	+2·8	43·0	+0·7
	977	10·5	36·2	−1·0	42·5	+0·2
3652	704	9·0	23. 39. 40·5	0·0	7. 59. 54·5	+0·3
	711	9·0	40·6	+0·2	53·8	−0·4
	975	9·5	40·4	−0·2	54·4	+0·2
3655	698	10·5	23. 40. 35·4	−0·9	8. 9. 36·1	+1·3
	957	10·5	36·1	+0·6	32·8	−2·0
	977	10·5	35·8	0·0	35·5	+0·7
3657	698	9·5	23. 40. 54·8	+0·9	8. 15. 28·1	+0·2
	717	9·5	54·1	−0·7	27·8	−0·1
	978	10·0	54·3	−0·2	27·8	−0·1
3659	703	9·5	23. 42. 12·1	+0·2	8. 1. 10·0	+0·4
	705	9·0	11·9	−0·2	9·8	+0·2
	975	9·5	12·0	0·0	9·1	−0·5
3662	704	9·0	23. 42. 50·9	−1·2	7. 49. 24·1	+0·9
	957	9·5	52·1	+1·2	22·5	−0·7
	992	9·0	51·4	−0·2	23·1	−0·1
3663	698	10·5	22. 42. 51·4	−0·2	8. 8. 46·7	−0·6
	717	10·5	51·8	+0·6	49·3	+2·0
	992	10·5	51·2	−0·6	45·8	−1·5
3665	957	10·5	23. 43. 21·7	0·0	7. 38. 47·5	+0·8
	977	10·5	21·3	−0·8	47·0	+0·3
	993	10·5	22·0	+0·6	45·6	−1·1
3666	711	10·5	23. 43. 44·3	−0·2	8. 36. 30·7	+0·9
	978	10·5	44·5	+0·2	30·3	+0·5
	989	10·5	44·4	0·0	28·5	−1·3
3667	977	10·5	23. 43. 44·9	−1·1	8. 25. 53·8	+0·9
	978	10·5	45·5	+0·2	54·6	+1·7
	993	10·5	45·9	+1·1	50·3	−2·6
3668	711	10·0	23. 43. 47·5	−0·2	8. 40. 53·4	+1·1
	975	10·0	47·6	0·0	51·3	−1·0
	989	10·0	47·7	+0·2	52·1	−0·2
3671	703	10·5	23. 44. 25·3	+0·6	7. 35. 4·3	+0·9
	705	10·5	25·0	0·0	3·6	+0·2
	992	10·5	24·7	−0·6	2·4	−1·0
3673	704	10·0	23. 44. 43·6	−1·2	7. 54. 6·7	+1·1
	717	10·0	44·7	+1·0	5·6	0·0
	993	10·0	44·4	+0·4	4·5	−1·1
3674	690	9·5	23. 45. 27·8	+0·7	8. 58. 9·7	+0·2
	705	9·5	27·7	+0·5	9·7	+0·2
	978	9·5	27·0	−1·2	9·0	−0·5
3675	957	10·0	23. 45. 51·0	+0·4	7. 26. 19·1	+0·3
	975	10·5	51·1	+0·6	19·1	+0·3
	976	10·0	50·2	−1·2	18·1	−0·7
3681	703	8·0	23. 49. 44·3	−0·4	7. 36. 57·6	−0·3
	705	8·0	44·5	0·0	57·7	−0·2
	975	8·0	44·6	+0·2	58·5	+0·6
3683	698	10·5	23. 50. 16·5	−0·7	8. 38. 50·8	+0·5
	704	10·5	16·9	+0·2	51·0	+0·7
	717	10·0	17·0	+0·5	49·1	−1·2
3685	698	10·5	23. 51. 5·5	−0·5	9. 1. 17·1	0·0
	704	10·5	6·4	+1·7	18·1	+1·0
	977	10·5	5·2	−1·2	16·0	−1·1
3686	703	10·0	23. 51. 10·4	−0·2	8. 23. 32·6	+0·7
	716	10·0	10·5	0·0	32·9	+1·0
	975	10·5	10·7	+0·4	30·1	−1·8
3690	705	10·5	23. 52. 2·4	−0·2	7. 44. 58·4	+0·7
	717	10·5	2·6	+0·2	56·3	−1·4
	978	10·0	2·6	+0·2	58·3	+0·6
3692	703	10·5	23. 52. 41·7	+0·6	7. 59. 34·2	−0·1
	716	10·5	41·3	−0·2	34·1	−0·2
	977	10·5	41·3	−0·2	34·5	+0·2
3694	705	10·0	23. 53. 0·8	−1·6	7. 42. 4·9	−0·1
	717	10·0	1·6	0·0	4·8	−0·2
	975	10·0	2·4	+1·6	5·4	+0·4
3697	698	10·0	23. 54. 28·8	−0·4	7. 34. 49·0	+0·2
	703	10·0	29·1	+0·2	48·2	−0·6
	976	10·0	29·0	0·0	49·3	+0·5
3700	705	9·0	23. 55. 23·4	−0·2	7. 50. 2·1	+0·2
	975	9·0	23·9	+0·8	1·7	−0·2
	978	8·5	23·2	−0·6	2·0	+0·1
3701	716	10·0	23. 55. 54·1	−0·4	8. 8. 61·1	+0·9
	976	10·0	54·0	−0·6	60·3	+0·1
	992	10·0	54·5	+0·4	59·6	−0·6
	993	10·0	54·5	+0·4	59·9	−0·3
3705	698	10·0	23. 57. 10·4	−0·4	7. 55. 33·9	−0·3
	977	10·5	10·4	−0·4	34·6	+0·4
	992	10·0	11·0	+0·8	34·0	−0·2
3706	705	10·5	23. 57. 12·6	+0·4	7. 8. 60·0	+0·5
	978	10·5	12·1	−0·6	59·0	−0·5
	989	10·0	12·5	+0·2	59·5	0·0
3707	698	10·5	23. 57. 42·6	+1·9	8. 6. 34·8	−0·8
	976	10·5	41·0	−1·5	38·4	+2·8
	978	10·5	41·6	−0·2	33·5	−2·1
3708	716	10·5	23. 58. 0·7	−0·4	8. 27. 14·7	−0·4
	977	10·5	0·9	0·0	15·7	+0·6
	989	10·5	1·1	+0·4	14·8	−0·3
3712	698	10·5	23. 59. 9·8	−0·2	8. 6. 32·6	+0·7
	705	10·5	9·8	−0·2	31·4	−0·5
	716	10·5	10·1	+0·4	31·7	−0·2

680 STARS

OBSERVED BY PROFESSOR SCHWERD

AT SPEYER,

AND 50 STARS

OBSERVED BY E. J. COOPER, ESQ.

AT MARKREE,

Brought up to 1855·0;
and compared with the Positions observed

AT REDHILL.

Schwerd's positions brought up to 1855·0.

No.	Mag.	R.A. 1828·0.	Obs.	N.P.D. 1828·0	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0	C−S.	Notes.
		h m s		° ′ ″		h m s	s	° ′ ″	″	
1	8·5	0. 0. 24·8	2	6. 48. 20·1	2	0. 1. 49·2	+1·2	6. 39. 18·7	0·0	Schwerd's third R.A. has been rejected.
2	8·0	0. 4. 15·8	3	4. 13. 50·0	1	0. 5. 49·6	+2·5	4. 4. 48·7	+0·1	
3	8·3	0. 5. 0·1	4	4. 17. 3·6	3	0. 6. 35·4	−0·9	4. 8. 2·4	+0·8	
4	8·0	0. 6. 16·3	2	6. 0. 3·1	2	0. 7. 49·9	−4·8	5. 51. 1·9	+0·4	
7	8·5	0. 8. 40·8	2	1. 30. 33·8	2	0. 11. 5·9	−3·7	1. 21. 32·9	0·0	
12	8·0	0. 20. 24·3	1	4. 37. 54·7	1	0. 22. 29·6	−1·0	4. 28. 55·7	+0·2	
13	8·5	0. 20. 37·3	2	4. 14. 30·1	2	0. 22. 47·0	+1·0	4. 5. 31·1	−1·0	
14	8·5	0. 21. 18·8	2	5. 57. 38·7	2	0. 23. 15·7	+0·4	5. 48. 39·8	+1·2	
15	8·3	0. 22. 42·2	2	7. 19. 7·5	2	0. 24. 34·4	+0·2	7. 10. 9·0	−1·5	
17	8·0	0. 23. 17·1	2	5. 51. 22·9	2	0. 25. 17·8	+0·2	5. 42. 24·5	+0·6	
18	9·0	0. 23. 19·1	1	4. 58. 48·1	1	0. 25. 26·6	+0·9	4. 49. 49·7	+0·9	
19	7·7	0. 24. 19·7	3	6. 16. 24·0	2	0. 26. 19·3	+0·1	6. 7. 25·9	−1·9	
20	9·0	0. 25. 6·8	1	4. 33. 10·3	1	0. 27. 22·4	−0·7	4. 24. 12·4	+1·0	
21	8·2	0. 25. 17·1	3	6. 12. 6·7	3	0. 27. 18·5	+1·7	6. 3. 8·8	−2·4	
22	8·5	0. 25. 38·0	2	6. 11. 42·1	2	0. 27. 40·0	+1·3	6. 2. 44·3	−0·9	
23	7·0	0. 27. 9·2	2	8. 27. 28·0	2	0. 29. 2·0	−1·2	8. 18. 30·6	−3·6	
25	9·0	0. 29. 58·2	1	9. 9. 17·8	1	0. 31. 51·4	−1·1	9. 0. 21·3	+0·3	
26	9·0	0. 29. 58·6	1	4. 0. 16·3	1	0. 32. 32·9	−1·2	3. 51. 19·9	−2·1	
30	9·0	0. 35. 14·2	1	6. 18. 21·8	1	0. 37. 29·4	−4·8	6. 9. 27·2	−2·7	Faint for Schwerd.
31	7·0	0. 36. 27·6	3	8. 58. 24·1	3	0. 38. 28·0	+0·1	8. 49. 29·9	−0·7	
33	8·5	0. 37. 16·6	2	5. 14. 7·7	1	0. 39. 46·4	−0·9	5. 5. 13·9	−0·9	
34	8·0	0. 38. 22·2	2	5. 28. 43·5	2	0. 40. 50·7	+0·9	5. 19. 50·1	+0·7	
36	9·0	0. 39. 25·7	1	8. 9. 6·0	1	0. 41. 33·3	+0·4	8. 0. 13·0	−1·0	The second observation has been rejected.
37	6·5	0. 39. 22·2	3	7. 13. 44·3	3	0. 41. 35·7	+1·5	7. 4. 51·3	+0·4	
38	9·0	0. 40. 1·5	1	3. 37. 6·4	1	0. 43. 9·6	+2·3	3. 28. 13·9	−3·1	
39	7·3	0. 40. 33·5	2	1. 54. 15·7	2	0. 45. 27·1	+3·6	1. 45. 23·8	+0·1	Schwerd's R.A.s disagree.
40	8·7	0. 42. 35·4	3	8. 14. 57·0	2	0. 44. 45·9	−0·1	8. 6. 5·4	−1·3	
41	8·5	0. 43. 42·4	2	7. 49. 34·2	2	0. 45. 56·8	+1·8	7. 40. 43·1	+2·4	
42	8·5	0. 44. 56·5	2	6. 16. 44·8	2	0. 47. 25·9	+0·9	6. 7. 54·3	+2·1	
43	7·2	0. 45. 52·7	3	6. 19. 24·7	3	0. 48. 23·0	+2·1	6. 10. 31·7	+1·5	
45	5·7	0. 46. 44·3	3	4. 40. 12·7	2	0. 49. 41·0	+1·9	4. 31. 23·2	+0·3	
46	8·8	0. 47. 17·3	2	2. 39. 27·7	2	0. 51. 31·3	+0·4	2. 30. 38·8	−1·4	
47	8·1	0. 47. 27·0	4	9. 3. 17·8	4	0. 49. 37·9	+1·0	8. 54. 28·5	−1·5	
48	8·3	0. 47. 49·3	2	5. 7. 46·8	2	0. 50. 39·2	−0·8	4. 58. 57·8	0·0	Corrected by Oeltzen.
49	6·5	0. 49. 20·4	2	3. 46. 35·0	2	0. 52. 46·5	+1·6	3. 37. 47·0	−0·6	Oeltzen's note is to be cancelled.
50	8·3	0. 50. 15·0	3	8. 57. 55·7	3	0. 52. 29·2	+0·2	8. 49. 7·8	+0·9	
53	9·0	1. 0. 20·6	1	3. 58. 30·9	1	1. 4. 5·4	−1·2	3. 49. 49·3	+0·4	
54	7·8	1. 1. 24·6	2	2. 20. 25·2	1	1. 6. 59·3	+7·1	2. 11. 44·8	+1·0	Examined by Oeltzen.
58	9·5	1. 6. 11·4	2	1. 8. 26·1	2	1. 17. 30·9	+4·1	0. 59. 51·0	+0·5	
63	9·0	1. 15. 2·7	2	8. 3. 0·6	2	1. 17. 50·0	+5·3	7. 54. 29·0	−2·0	
64	8·2	1. 15. 28·6	4	8. 6. 0·9	4	1. 18. 15·8	+0·9	7. 57. 29·7	+0·4	
65	9·0	1. 16. 20·1	1	8. 59. 11·6	1	1. 18. 59·5	−0·1	8. 50. 41·0	−0·6	
67	10·0	1. 20. 25·0	1	5. 56. 15·2	1	1. 23. 51·1	−1·1	5. 47. 48·2	−2·0	
69	8·3	1. 23. 49·3	3	5. 39. 31·3	3	1. 27. 26·9	+2·0	5. 31. 7·2	−1·8	
70	8·8	1. 24. 56·2	2	5. 48. 49·7	2	1. 28. 31·7	+1·0	5. 40. 26·6	−1·1	
71	9·0	1. 26. 1·2	2	8. 23. 35·4	2	1. 28. 56·0	+0·5	8. 15. 12·9	+1·0	
72	8·0	1. 26. 46·3	2	3. 55. 38·9	2	1. 31. 32·2	+5·7	3. 47. 17·9	+2·1	
74	10·0	1. 27. 48·1	1	6. 29. 29·8	1	1. 31. 13·1	−3·0	6. 21. 9·2	−3·3	Faint for Schwerd.
75	8·5	1. 28. 13·4	3	2. 21. 35·9	3	1. 35. 28·4	+5·3	2. 13. 17·3	+1·5	
78	9·0	1. 29. 42·2	1	6. 32. 8·3	1	1. 33. 8·8	+0·8	6. 23. 49·4	−0·8	
80	8·8	1. 30. 36·1	2	5. 42. 54·5	2	1. 34. 22·4	−0·6	5. 34. 36·6	−0·8	
81	9·0	1. 30. 36·9	2	9. 3. 20·5	2	1. 33. 29·0	+0·4	8. 55. 2·2	−1·0	
83	8·8	1. 31. 48·8	3	2. 9. 13·6	3	1. 39. 54·4	+7·7	2. 0. 58·8	−1·4	
85	7·0	1. 35. 24·4	3	8. 53. 55·7	3	1. 38. 22·6	+1·1	8. 45. 41·9	−0·6	Corrected by Oeltzen.
86	8·0	1. 35. 26·5	2	6. 6. 42·0	2	1. 39. 9·9	+0·2	5. 58. 28·6	+0·1	
89	8·7	1. 40. 7·0	3	1. 38. 50·6	3	1. 51. 12·1	−4·3	1. 30. 45·6	+2·4	
90	—	1. 41. 41·0	2	8. 17. 34·0	2	1. 44. 52·7	+0·4	8. 9. 26·6	−0·1	
91	9·0	1. 42. 36·0	2	1. 14. 30·8	2	1. 57. 31·9	+4·7	1. 6. 30·4	+0·6	
93	7·0	1. 46. 20·1	2	5. 5. 34·5	2	1. 50. 50·2	0·0	4. 57. 32·7	−2·4	
98	8·5	1. 49. 25·1	2	2. 5. 14·0	2	1. 58. 56·8	−3·8	1. 57. 18·3	+0·2	
100	7·0	1. 51. 24·3	4	7. 15. 28·6	4	1. 55. 2·9	+1·8	7. 7. 31·9	+0·5	Schwerd's first Decl. has been corrected.
103	9·0	1. 55. 18·4	2	6. 0. 7·1	2	1. 59. 31·5	+0·3	5. 52. 15·2	+1·5	
106	9·0	1. 57. 41·8	2	5. 44. 15·5	2	2. 2. 6·2	+2·0	5. 36. 26·5	−1·6	
108	8·5	1. 59. 13·9	4	7. 7. 27·1	4	2. 3. 3·8	+0·7	6. 59. 39·6	+0·2	
112	9·0	2. 4. 41·5	2	1. 45. 23·7	2	2. 17. 4·4	+2·6	1. 37. 48·1	−0·3	
114	8·5	2. 6. 48·4	1	5. 42. 53·4	1	2. 11. 26·1	+0·4	5. 35. 15·6	+1·6	
116	8·0	2. 8. 57·3	2	4. 58. 3·9	2	2. 14. 8·6	+0·4	4. 50. 29·2	−2·9	
117	6·8	2. 9. 11·8	2	6. 56. 35·0	2	2. 13. 16·9	−1·2	6. 48. 59·9	0·0	
119	8·0	2. 13. 27·7	3	3. 42. 53·4	3	2. 20. 8·4	+1·0	3. 35. 25·6	−2·0	
121	8·5	2. 13. 34·4	2	9. 7. 44·2	2	2. 17. 3·2	+0·9	9. 0. 14·4	−2·7	
128	9·0	2. 19. 23·8	1	6. 52. 36·2	1	2. 23. 41·6	−2·4	6. 45. 14·8	−2·4	
129	8·8	2. 19. 26·4	2	2. 10. 8·9	2	2. 30. 28·9	+5·6	2. 2. 52·1	+0·9	
134	8·7	2. 23. 47·0	3	4. 52. 3·1	3	2. 29. 26·1	+1·2	4. 44. 48·7	−1·5	
135	8·7	2. 25. 11·9	3	4. 51. 24·8	3	2. 30. 53·7	+0·7	4. 44. 12·5	−2·2	
140	8·5	2. 28. 58·3	2	8. 19. 39·9	2	2. 32. 53·2	+0·7	8. 12. 31·7	+0·8	
141	9·0	2. 31. 32·8	2	2. 45. 27·2	2	2. 40. 58·2	+1·5	2. 38. 26·8	−0·1	
147	9·0	2. 38. 22·1	2	6. 50. 55·0	2	2. 43. 0·6	−0·8	6. 44. 1·3	−0·7	
149	8·3	2. 41. 25·3	2	5. 50. 18·9	2	2. 46. 42·1	+0·4	5. 43. 30·4	−1·3	
150	7·3	2. 42. 33·0	2	7. 46. 54·9	2	2. 46. 51·0	+0·2	7. 40. 7·3	−1·9	
151	8·7	2. 42. 48·3	3	5. 41. 45·8	3	2. 48. 12·8	+0·5	5. 34. 59·5	−0·9	
153	6·8	2. 45. 41·8	3	9. 12. 39·3	3	2. 49. 34·3	0·0	9. 5. 56·4	−1·6	
154	9·0	2. 48. 14·2	2	7. 30. 3·4	2	2. 52. 44·1	−0·1	7. 23. 25·0	−2·3	
156	9·5	2. 51. 35·1	2	7. 22. 58·3	2	2. 56. 11·1	−0·2	7. 16. 25·4	−1·6	
157	5·7	2. 53. 11·2	3	5. 43. 20·8	3	2. 58. 46·7	+1·0	5. 36. 51·3	+2·7	
160	8·8	2. 55. 2·0	2	6. 35. 59·7	2	3. 0. 4·9	+1·0	6. 29. 32·8	−0·3	
161	7·0	2. 55. 4·2	2	8. 29. 56·5	2	2. 59. 16·8	+0·6	8. 23. 29·0	+0·3	

Schwerd's positions brought up to 1855·0.

No.	Mag.	R.A. 1828·0.	Obs.	N.P.D. 1828·0.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
		h m s		° ′ ″		h m s	s	° ′ ″	″	
162	7·5	2. 55. 5·2	2	7. 6. 54·1	2	2. 59. 51·8	−0·2	7. 0. 27·0	−0·6	
170	8·8	3. 6. 43·9	2	8. 49. 2·7	2	3. 10. 58·6	+0·8	8. 42. 54·9	+0·5	
171	9·0	3. 7. 4·6	2	7. 12. 11·9	2	3. 11. 59·1	+0·8	7. 6. 5·3	+1·6	
174	8·3	3. 9. 56·9	4	7. 14. 0·5	4	3. 14. 52·9	+0·9	7. 7. 58·9	+0·7	
176	6·0	3. 11. 20·1	7	3. 55. 14·3	7	3. 19. 24·6	+4·0	3. 49. 17·9	+1·3	
181	9·0	3. 18. 59·9	1	6. 5. 22·7	1	3. 24. 45·8	+1·7	5. 59. 38·1	−0·7	
182	9·0	3. 19. 33·0	1	4. 55. 4·2	1	3. 26. 23·9	+2·9	4. 49. 21·6	−0·4	Corrected by Oeltzen.
183	8·0	3. 19. 35·8	2	7. 0. 50·8	2	3. 24. 46·8	+0·8	6. 55. 6·7	−0·1	
186	9·0	3. 22. 9·4	2	5. 52. 33·2	2	3. 28. 8·2	+0·3	5. 46. 54·6	+0·7	
188	8·0	3. 24. 32·1	2	2. 11. 41·0	2	3. 38. 42·3	+0·4	2. 6. 14·3	+2·4	
190	8·5	3. 25. 38·6	3	7. 48. 31·9	3	3. 30. 30·2	+1·1	7. 42. 58·7	+0·5	
191	9·0	3. 27. 6·1	1	3. 33. 46·0	1	3. 36. 17·6	+1·3	3. 28. 19·6	−2·5	
196	7·8	3. 33. 0·8	3	8. 38. 30·6	3	3. 37. 36·4	+1·3	8. 33. 11·0	+2·8	
197	8·0	3. 33. 38·9	2	8. 56. 27·6	2	3. 38. 8·3	+0·4	8. 51. 9·1	+1·8	
207	8·8	3. 42. 14·8	2	6. 34. 25·2	2	3. 47. 59·9	+0·8	6. 29. 24·6	−0·4	
211	7·0	3. 45. 6·0	2	4. 55. 1·3	2	3. 52. 24·5	+0·6	4. 50. 7·9	−0·4	
212	8·3	3. 45. 17·5	2	6. 22. 44·0	2	3. 51. 13·2	+0·5	6. 17. 49·6	+1·0	
216	7·5	3. 48. 57·3	2	8. 29. 3·2	2	3. 53. 46·1	−0·1	8. 24. 15·0	−0·5	
217	6·5	3. 49. 15·7	2	6. 38. 26·5	2	3. 55. 3·2	+0·9	6. 33. 39·9	−1·3	
221	8·0	3. 50. 32·0	2	9. 1. 38·9	2	3. 55. 8·9	+1·1	8. 56. 53·7	+1·6	
222	8·0	3. 50. 57·2	2	8. 49. 19·2	2	3. 55. 38·9	+0·9	8. 44. 34·9	+0·8	
223	7·4	3. 51. 41·5	5	5. 57. 31·5	5	3. 58. 1·8	+1·9	5. 52. 50·3	−2·2	
225	6·3	3. 53. 0·4	2	7. 6. 8·0	2	3. 58. 32·9	−0·5	7. 1. 28·7	−3·9	
228	8·5	3. 54. 56·7	2	6. 15. 6·9	2	4. 1. 5·2	+0·5	6. 10. 32·1	−0·8	
236	9·0	3. 59. 58·7	1	4. 42. 15·1	1	4. 7. 48·1	+1·6	4. 37. 52·4	+0·4	
240	8·5	4. 4. 17·8	1	7. 54. 47·8	1	4. 9. 30·5	+1·2	7. 50. 31·3	−1·1	
241	7·5	4. 4. 45·9	2	6. 21. 12·7	2	4. 10. 56·6	+1·4	6. 16. 58·2	−0·8	
246	9·0	4. 9. 1·1	1	3. 52. 26·1	1	4. 18. 25·0	+1·0	3. 48. 23·9	+0·6	Corrected by Oeltzen.
247	8·5	4. 9. 25·5	2	3. 26. 40·6	2	4. 19. 51·1	+0·3	3. 22. 40·3	−4·0	
249	8·5	4. 11. 38·2	2	6. 36. 45·7	2	4. 17. 41·6	+1·5	6. 32. 45·5	+1·0	
253	7·5	4. 14. 8·2	2	5. 27. 51·7	2	4. 21. 13·5	+0·9	5. 23. 57·9	−0·2	
261	7·5	4. 18. 20·2	2	7. 2. 11·3	2	4. 24. 10·0	+1·2	6. 58. 25·2	+0·2	
265	8·0	4. 20. 46·3	2	3. 59. 20·2	2	4. 30. 7·0	+1·6	3. 55. 43·1	+0·6	
266	7·5	4. 21. 18·6	2	7. 7. 51·0	2	4. 27. 6·3	+1·3	7. 4. 11·2	−1·0	
267	9·0	4. 21. 26·8	1	3. 24. 46·6	1	4. 32. 10·6	+2·5	3. 21. 12·4	−5·3	Faint for Schwerd.
270	9·0	4. 23. 55·3	2	8. 43. 45·5	2	4. 28. 54·7	+1·2	8. 40. 10·5	+2·1	
272	7·8	4. 25. 56·1	3	8. 40. 54·0	3	4. 30. 57·5	+1·4	8. 37. 23·5	−1·4	
273	8·0	4. 26. 7·6	2	6. 49. 35·4	2	4. 32. 9·9	+0·7	6. 46. 6·3	−1·5	
276	8·0	4. 27. 8·1	2	5. 5. 18·2	2	4. 34. 48·3	+1·1	5. 1. 53·1	−0·6	
277	6·5	4. 28. 32·2	6	9. 7. 3·7	6	4. 33. 23·9	+0·8	9. 3. 38·6	−1·2	
280	8·5	4. 30. 55·8	1	9. 1. 37·2	1	4. 35. 50·5	+0·6	8. 58. 17·4	−1·4	
283	6·6	4. 32. 4·1	5	4. 17. 57·5	5	4. 40. 58·5	+1·7	4. 14. 44·6	+2·2	
284	8·0	4. 32. 58·0	3	7. 46. 11·9	3	4. 38. 28·6	+0·4	7. 42. 57·3	−1·9	
286	8·8	4. 34. 43·5	2	7. 42. 33·2	2	4. 40. 16·8	−1·2	7. 39. 22·5	−1·6	
289	8·0	4. 36. 31·0	3	4. 30. 46·4	3	4. 45. 6·6	+1·1	4. 27. 43·0	+1·4	
290	8·5	4. 38. 2·1	2	5. 22. 3·9	2	4. 45. 28·7	+3·1	5. 19. 2·6	+2·5	
296	9·0	4. 44. 53·7	1	8. 17. 57·4	1	4. 50. 12·4	+0·3	8. 15. 9·1	−1·0	
298	6·7	4. 46. 23·0	2	4. 31. 12·7	2	4. 55. 4·0	+1·0	4. 28. 31·5	−3·6	
300	8·0	4. 46. 58·4	5	9. 0. 25·3	5	4. 51. 58·9	+1·0	8. 57. 41·3	−0·2	
302	8·8	4. 47. 16·6	3	6. 23. 20·2	4	4. 53. 48·2	+2·2	6. 20. 38·6	−1·8	
306	7·0	4. 53. 57·5	5	6. 19. 20·6	5	5. 0. 35·0	+1·3	6. 16. 54·2	−0·1	
312	8·0	4. 57. 0·4	2	7. 47. 0·2	2	5. 2. 39·0	+0·3	7. 44. 39·7	−0·8	Schwerd's second Decl. has been corrected.
318	—	5. 6. 29·6	1	8. 45. 29·0	1	5. 11. 41·5	−0·7	8. 43. 29·7	+0·3	
319	6·8	5. 7. 45·1	5	4. 55. 29·6	5	5. 15. 59·0	+0·2	4. 53. 36·7	−1·7	
320	8·0	5. 8. 12·7	2	2. 43. 52·3	2	5. 22. 1·8	+1·1	2. 42. 6·9	+0·2	
322	7·5	5. 11. 57·5	4	4. 48. 7·6	4	5. 20. 23·5	+0·9	4. 46. 24·7	−0·4	
323	8·0	5. 12. 39·6	2	6. 29. 51·0	1	5. 19. 14·2	+1·1	6. 28. 7·6	+1·0	Schwerd's second Decl. is 1′ too great.
327	9·0	5. 15. 29·8	2	5. 14. 44·0	2	5. 23. 20·8	+2·3	5. 13. 8·6	−3·3	
329	9·0	5. 18. 12·9	2	3. 36. 48·9	2	5. 29. 2·1	+0·5	3. 35. 23·3	−1·5	
330	9·0	5. 19. 51·9	1	5. 0. 41·0	1	5. 28. 2·4	+1·3	4. 59. 16·2	−2·1	
333	8·5	5. 21. 49·7	2	5. 4. 15·3	2	5. 29. 55·8	+3·0	5. 2. 55·0	−4·4	
334	7·5	5. 24. 9·0	3	7. 19. 10·3	3	5. 30. 10·4	+1·4	7. 17. 53·0	−3·5	
335	8·0	5. 24. 19·0	2	8. 42. 47·7	2	5. 29. 35·3	+1·2	8. 41. 29·9	+1·4	
336	9·0	5. 25. 15·4	2	4. 55. 4·0	2	5. 33. 34·9	+0·6	4. 53. 52·0	−2·4	
338	8·5	5. 27. 13·1	4	5. 56. 40·9	4	5. 34. 20·4	+1·3	5. 55. 32·1	−1·5	
339	8·5	5. 30. 2·1	4	5. 54. 35·6	4	5. 37. 11·9	+1·3	5. 53. 33·4	−0·9	
340	8·3	5. 31. 7·1	3	7. 35. 0·3	3	5. 36. 59·7	+0·7	7. 33. 59·1	−1·9	
341	9·0	5. 34. 21·8	2	5. 49. 48·7	2	5. 41. 37·1	+1·9	5. 48. 56·8	−1·4	
342	6·3	5. 36. 1·6	4	3. 15. 7·1	4	5. 47. 59·0	+1·4	3. 14. 24·6	+2·0	
345	8·7	5. 43. 39·7	3	8. 2. 36·2	3	5. 49. 17·7	+0·9	8. 2. 4·3	−0·8	
354	8·0	5. 54. 29·0	2	2. 26. 44·5	2	6. 9. 56·8	+0·7	2. 26. 49·7	+1·9	
356	9·0	5. 56. 0·8	2	3. 55. 32·5	2	6. 6. 9·7	+0·8	3. 55. 35·1	−0·5	
357	9·0	5. 57. 34·4	3	7. 23. 20·2	3	6. 3. 35·7	−0·4	7. 23. 21·6	−1·0	
368	8·5	6. 7. 39·5	2	7. 28. 19·5	2	6. 13. 37·2	+0·6	7. 28. 44·6	−0·3	
369	7·0	6. 7. 58·5	2	7. 46. 21·2	2	6. 13. 45·5	+0·4	7. 46. 46·9	+0·6	
372	8·5	6. 11. 6·6	2	4. 15. 41·4	2	6. 20. 32·2	+0·5	4. 16. 18·8	−1·9	
374	—	6. 12. 53·7	3	5. 10. 56·7	3	6. 20. 53·1	−0·1	5. 11. 36·6	−2·7	
376	8·5	6. 15. 17·6	2	8. 43. 38·0	2	6. 20. 34·8	+0·9	8. 44. 20·3	−2·0	
379	5·5	6. 17. 14·1	14	2. 43. 53·4	14	6. 31. 7·3	−0·7	2. 44. 50·4	+0·9	
381	—	6. 25. 7·5	2	4. 1. 35·3	2	6. 34. 57·6	+0·8	4. 2. 46·1	+3·6	Schwerd's Decls. disagree.
382	9·0	6. 25. 40·9	1	8. 53. 46·9	1	6. 30. 52·5	+0·1	8. 54. 53·5	−0·8	
384	7·5	6. 26. 52·6	2	0. 56. 25·4	2	7. 3. 40·3	−0·7	0. 58. 12·0	−1·5	
386	8·8	6. 30. 47·6	2	6. 46. 28·1	2	6. 37. 10·6	+0·2	6. 47. 48·1	+1·3	Schwerd's Decls. disagree.
387	8·0	6. 33. 30·9	2	6. 47. 5·9	2	6. 39. 52·8	+0·3	6. 48. 32·2	−2·6	
390	—	6. 38. 47·2	3	7. 19. 15·8	3	6. 44. 45·9	−0·8	7. 20. 53·9	+1·0	
392	9·0	6. 40. 33·4	2	3. 21. 25·5	2	6. 51. 56·5	−0·2	3. 23. 14·0	−1·5	

Schwerd's positions brought up to 1855·0.

No.	Mag.	R.A. 1828·0.	Obs.	N.P.D. 1828·0.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
		h m s		° ′ ″		h m s	s	° ′ ″	″	
396	8·0	6. 41. 20·1	2	6. 15. 17·6	2	6. 48. 5·3	+1·1	6. 17. 2·6	−2·1	
397	7·5	6. 41. 23·5	3	3. 18. 54·2	3	6. 52. 53·6	0·0	3. 20. 44·8	+1·5	
401	—	6. 48. 40·3	2	8. 51. 50·3	2	6. 53. 48·5	+0·5	8. 53. 50·3	−1·0	
403	—	6. 52. 20·7	2	8. 27. 28·8	2	6. 57. 38·9	+0·5	8. 29. 37·5	−2·5	
406	—	6. 54. 9·3	2	5. 29. 11·4	2	7. 1. 34·9	−0·4	5. 31. 26·7	−4·1	
407	5·5	6. 54. 21·9	17	7. 17. 13·9	17	7. 0. 17·7	+0·8	7. 19. 27·9	0·0	
408	—	6. 54. 31·5	2	8. 43. 59·0	2	6. 59. 41·7	−0·4	8. 46. 12·5	+0·9	
415	9·0	6. 59. 56·4	1	7. 41. 6·5	1	7. 5. 36·1	+0·9	7. 43. 32·9	−3·2	
416	7·5	7. 2. 55·5	3	8. 46. 48·8	3	7. 8. 2·1	+0·8	8. 49. 21·4	−1·8	
418	9·0	7. 4. 7·2	1	6. 59. 49·8	1	7. 10. 10·8	−0·4	7. 2. 26·2	+1·4	
424	8·0	7. 9. 12·6	2	6. 34. 10·4	2	7. 15. 32·4	+1·2	6. 36. 58·6	−1·9	
431	—	7. 13. 17·7	2	7. 56. 56·8	2	7. 18. 44·3	+0·9	7. 59. 53·1	+1·2	
434	8·0	7. 17. 15·7	2	3. 10. 26·7	2	7. 28. 42·3	+1·0	3. 13. 38·5	−0·5	
439	9·0	7. 20. 54·1	1	4. 54. 58·4	1	7. 28. 46·1	+0·2	4. 58. 14·3	+1·9	
441	8·0	7. 21. 38·0	2	5. 39. 48·9	2	7. 28. 38·4	+1·4	5. 43. 5·5	−0·3	
446	7·0	7. 25. 8·7	2	8. 14. 9·8	2	7. 30. 22·1	−0·1	8. 17. 32·1	+0·6	
447	8·0	7. 26. 4·7	2	5. 9. 13·2	2	7. 33. 35·4	+1·3	5. 12. 40·0	0·0	
451	7·0	7. 27. 35·4	5	3. 50. 27·2	5	7. 37. 9·2	−0·5	3. 53. 59·6	+1·1	
460	—	7. 34. 32·2	7	5. 28. 36·7	7	7. 41. 35·6	+1·1	5. 32. 21·4	−0·8	
464	8·3	7. 36. 22·1	3	7. 50. 6·4	3	7. 41. 42·2	+0·5	7. 53. 53·2	+1·2	
469	—	7. 41. 6·9	1	7. 46. 19·1	1	7. 46. 26·6	+0·8	7. 50. 16·0	−0·6	
470	8·0	7. 41. 17·5	1	8. 28. 51·2	1	7. 46. 17·2	+1·0	8. 32. 48·1	−1·4	
471	8·0	7. 43. 43·9	2	5. 29. 22·4	2	7. 50. 40·0	+0·8	5. 33. 26·5	−2·8	
475	8·0	7. 47. 35·1	2	6. 23. 54·4	2	7. 53. 41·5	+0·8	6. 28. 5·7	+1·2	
480	6·0	7. 50. 24·2	9	7. 3. 41·4	9	7. 56. 2·4	−0·2	7. 7. 58·1	−0·2	
486	8·5	7. 53. 10·7	2	2. 32. 15·1	2	8. 6. 9·3	+0·3	2. 36. 45·2	+0·8	
488	9·0	7. 55. 22·9	2	3. 38. 54·4	2	8. 4. 50·9	+1·0	3. 43. 25·4	+1·3	
491	—	7. 56. 24·6	1	2. 45. 32·1	1	8. 8. 23·5	+1·2	2. 50. 7·8	−1·4	Corrected by Oeltzen.
492	8·5	7. 56. 31·0	2	5. 0. 52·1	2	8. 3. 47·3	+0·3	5. 5. 23·1	−2·5	
497	9·0	8. 0. 9·1	1	2. 33. 38·8	1	8. 12. 48·9	−0·1	2. 38. 22·7	+1·5	
502	7·7	8. 4. 43·9	13	4. 22. 0·5	13	8. 12. 43·3	−2·7	4. 26. 48·9	+1·9	
504	9·0	8. 6. 26·7	3	4. 13. 30·4	3	8. 14. 37·2	−0·6	4. 18. 22·4	−1·2	
511	8·8	8. 13. 11·8	3	7. 5. 17·1	3	8. 18. 34·0	+0·7	7. 10. 19·6	+0·2	
513	7·2	8. 14. 24·9	10	7. 10. 28·6	10	8. 19. 43·4	+0·2	7. 15. 33·5	−0·3	
517	7·8	8. 18. 41·9	3	5. 29. 52·3	3	8. 25. 7·8	−2·4	5. 35. 6·6	+2·8	
521	7·8	8. 22. 3·8	3	8. 54. 27·1	3	8. 26. 31·9	−0·1	8. 59. 45·9	+0·6	
523	8·3	8. 23. 24·7	2	8. 55. 41·3	2	8. 27. 51·6	−0·2	9. 1. 2·7	−0·3	
525	7·8	8. 25. 10·4	5	3. 47. 40·2	5	8. 33. 40·8	+0·1	3. 53. 8·8	+0·3	
529	7·0	8. 27. 33·6	2	6. 39. 7·0	2	8. 33. 0·2	+1·3	6. 44. 37·1	−2·0	
532	—	8. 29. 47·2	2	4. 39. 7·0	2	8. 36. 54·7	+1·5	4. 44. 42·9	−1·0	
533	6·0	8. 30. 20·4	8	6. 37. 7·5	8	8. 35. 45·8	+1·1	6. 42. 42·8	−1·2	
534	7·5	8. 30. 28·8	2	8. 5. 1·5	2	8. 35. 10·3	+0·3	8. 10. 36·4	+0·1	
536	8·0	8. 34. 22·9	4	6. 10. 20·6	4	8. 40. 2·1	+0·6	6. 16. 3·6	+0·5	
539	7·0	8. 37. 50·9	4	5. 9. 5·1	4	8. 44. 16·4	+1·4	5. 14. 55·1	−1·8	
540	9·0	8. 39. 29·9	2	6. 12. 32·9	2	8. 45. 2·9	−0·3	6. 18. 25·0	−2·2	
542	8·0	8. 40. 56·0	3	8. 17. 45·2	3	8. 45. 25·2	−0·4	8. 23. 38·9	0·0	
543	8·0	8. 41. 14·0	2	5. 41. 20·8	2	8. 47. 7·8	+0·9	5. 47. 16·3	−0·5	
545	8·5	8. 41. 36·1	2	8. 14. 37·9	2	8. 46. 6·1	+0·9	8. 20. 32·8	+0·5	
547	6·5	8. 44. 49·4	3	8. 29. 55·1	3	8. 49. 11·5	+1·5	8. 35. 55·6	−1·6	
548	8·0	8. 49. 19·4	2	2. 24. 40·7	2	9. 0. 48·3	−0·4	2. 30. 55·3	−2·6	
549	8·0	8. 49. 38·3	2	4. 5. 12·6	2	8. 57. 4·1	−1·3	4. 11. 24·2	−0·6	
550	9·0	8. 49. 41·2	1	8. 18. 40·1	1	8. 54. 3·8	+0·5	8. 24. 49·1	−0·9	
551	8·3	8. 49. 46·8	2	6. 41. 33·2	2	8. 54. 52·7	+0·6	6. 47. 43·0	+0·3	
552	9·0	8. 51. 15·0	2	6. 57. 47·5	2	8. 56. 10·9	+0·8	7. 3. 59·7	−2·7	
554	8·8	8. 53. 29·2	2	6. 23. 24·0	2	8. 58. 42·0	+0·9	6. 29. 40·3	−1·1	
557	8·3	8. 57. 24·1	3	2. 8. 0·7	3	9. 9. 44·8	0·0	2. 14. 29·6	−0·6	
558	8·8	8. 58. 27·4	2	6. 35. 40·0	2	9. 3. 28·4	+0·3	6. 42. 4·5	−0·4	
559	9·0	8. 59. 24·0	1	7. 24. 50·8	1	9. 4. 0·2	+2·4	7. 31. 16·5	−0·2	
561	7·8	9. 0. 2·4	2	5. 31. 55·3	1	9. 5. 43·1	+8·4	5. 38. 22·9	−0·6	Examined by Oeltzen. No error found.
562	—	9. 1. 31·4	2	4. 10. 0·8	2	9. 8. 32·5	−0·5	4. 16. 32·0	+1·3	
563	9·0	9. 2. 7·1	1	8. 44. 9·6	1	9. 6. 12·1	+0·7	8. 50. 39·3	−1·1	
564	8·0	9. 4. 55·7	2	2. 47. 43·3	2	9. 14. 29·0	+0·1	2. 54. 22·1	−0·8	
565	7·5	9. 7. 25·9	3	6. 20. 1·3	3	9. 12. 26·7	+1·5	6. 26. 40·4	−0·2	
566	9·0	9. 9. 34·8	1	5. 24. 42·3	1	9. 15. 9·6	−0·1	5. 31. 25·2	−2·9	
567	9·0	9. 11. 0·4	1	2. 4. 0·9	1	9. 22. 58·8	−0·2	2. 10. 51·2	+1·6	Corrected by Oeltzen.
568	4·8	9. 11. 48·4	25	7. 55. 36·1	25	9. 16. 1·9	+0·8	8. 2. 21·5	+0·3	
569	—	9. 14. 24·6	2	6. 52. 49·9	2	9. 19. 1·5	+1·0	6. 59. 39·6	−1·1	
570	—	9. 16. 49·9	1	5. 26. 52·5	1	9. 22. 14·1	−1·0	5. 33. 46·6	−1·7	
571	—	9. 17. 40·1	1	5. 29. 26·7	1	9. 23. 1·4	−0·9	5. 36. 22·0	−4·2	
572	9·0	9. 18. 26·9	1	5. 30. 51·6	1	9. 23. 46·3	+0·5	5. 37. 48·0	−1·2	
573	8·0	9. 19. 25·2	2	4. 44. 21·5	2	9. 25. 21·2	+2·8	4. 51. 19·9	+2·0	
574	8·0	9. 19. 27·9	2	5. 53. 58·5	2	9. 24. 30·9	+1·9	6. 0. 56·3	−2·4	
575	—	9. 20. 28·5	1	2. 37. 20·0	1	9. 29. 53·5	0·0	2. 44. 22·6	+0·1	
577	8·0	9. 22. 36·8	3	4. 50. 12·0	3	9. 28. 22·8	+0·5	4. 57. 15·0	+1·0	
583	8·3	9. 31. 36·4	2	5. 43. 16·4	2	9. 36. 31·3	−0·9	5. 50. 31·7	−0·7	
586	8·3	9. 36. 21·3	2	1. 53. 9·7	2	9. 47. 45·1	+0·1	2. 0. 36·1	+1·4	
587	8·0	9. 37. 25·1	2	8. 48. 58·1	2	9. 41. 1·2	+1·4	8. 56. 20·5	−1·7	
589	8·5	9. 39. 9·4	2	8. 47. 14·5	2	9. 42. 44·5	+0·3	8. 54. 39·3	−0·7	
590	6·0	9. 39. 36·9	2	5. 15. 51·2	2	9. 44. 38·9	+0·7	5. 23. 17·6	−0·7	
592	8·2	9. 40. 23·0	3	3. 20. 29·4	3	9. 47. 25·5	+0·2	3. 27. 58·2	+0·2	
594	9·5	9. 43. 32·—	3	0. 20. 3·2	3	10. 26. 23·2	−2·2	0. 27. 59·8	−0·9	
596	8·5	9. 44. 27·1	1	1. 16. 18·4	2	9. 59. 30·7	+2·1	1. 23. 57·7	+0·3	
600	7·0	9. 48. 59·9	5	6. 45. 58·5	5	9. 53. 3·6	+0·9	6. 53. 36·4	−0·9	
603	8·8	9. 54. 24·8	2	3. 37. 16·4	2	10. 0. 33·2	+1·0	3. 45. 2·3	−0·2	
608	7·0	10. 1. 21·2	2	6. 20. 32·7	2	10. 5. 20·7	+0·7	6. 28. 25·5	−1·2	
609	—	10. 1. 50·3	2	3. 4. 26·2	2	10. 8. 29·3	+1·6	3. 12. 21·1	−1·4	

SCHWERD'S POSITIONS BROUGHT UP TO 1855·0.

No.	Mag.	R.A. 1828·0.	Obs.	N.P.D. 1828·0.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
		h m s		° ′ ″		h m s	s	° ′ ″	″	
610	7·0	10. 3. 9·5	11	4. 53. 2·1	11	10. 7. 52·1	−2·9	5. 0. 57·4	−0·6	
613	9·0	10. 3. 47·−	1	0. 7. 34·9	1	11. 8. 3·1	+24·2	0. 16. 5·1	+0·5	
614	7·5	10. 5. 32·2	2	7. 37. 56·9	2	10. 9. 1·3	+1·9	7. 45. 54·1	−2·0	
615	9·0	10. 5. 56·4	2	7. 51. 53·6	2	10. 9. 21·4	+1·8	7. 59. 51·3	+0·7	
616	8·0	10. 5. 48·7	2	5. 34. 38·7	2	10. 10. 3·2	+0·5	5. 42. 36·7	−0·7	
618	—	10. 6. 2·8	2	3. 53. 55·1	2	10. 11. 28·7	+2·0	4. 1. 54·0	−1·8	
620	8·0	10. 8. 24·6	3	6. 27. 46·4	3	10. 12. 12·8	+1·4	6. 35. 47·0	−0·8	
621	7·5	10. 8. 26·1	2	7. 56. 50·7	2	10. 11. 47·3	+1·1	8. 4. 51·1	−1·6	
622	7·3	10. 8. 45·3	4	4. 43. 51·0	4	10. 13. 25·0	+1·6	4. 51. 52·4	−1·4	
624	6·4	10. 9. 14·0	4	6. 34. 26·8	4	10. 12. 58·8	−0·6	6. 42. 28·2	−1·8	
627	8·3	10. 14. 21·5	2	7. 5. 59·4	2	10. 17. 50·1	+1·4	7. 14. 6·1	−3·3	
630	8·8	10. 17. 41·0	2	4. 29. 38·6	2	10. 22. 15·2	+2·6	4. 37. 49·3	−0·3	
631	6·0	10. 17. 45·1	3	8. 37. 30·0	3	10. 20. 48·5	+0·7	8. 45. 40·0	−0·5	
632	8·0	10. 19. 7·0	2	7. 31. 57·6	2	10. 22. 23·5	+0·6	7. 40. 9·0	−0·8	
633	7·8	10. 19. 18·5	3	4. 22. 0·8	3	10. 23. 55·2	+1·3	4. 30. 13·1	+0·2	
637	9·0	10. 24. 14·8	2	7. 52. 23·7	2	10. 27. 21·1	+0·4	8. 0. 40·0	−0·3	
640	6·5	10. 25. 59·3	6	8. 40. 50·1	6	10. 28. 54·4	+0·9	8. 49. 8·0	−0·5	
644	8·0	10. 28. 32·5	2	3. 44. 2·6	2	10. 33. 21·1	0·0	3. 52. 23·6	−0·8	
645	8·5	10. 28. 49·7	2	5. 53. 49·6	2	10. 32. 23·9	+1·4	6. 2. 10·4	+0·8	
649	—	10. 36. 47·1	2	4. 43. 50·7	2	10. 40. 39·3	+0·9	4. 52. 18·4	+0·8	
655	8·5	10. 43. 38·0	2	5. 51. 36·4	2	10. 46. 52·2	+0·4	6. 0. 9·3	+1·0	
657	7·7	10. 44. 31·0	3	1. 25. 54·3	3	10. 52. 54·8	+2·7	1. 34. 29·8	−0·5	
659	8·3	10. 46. 1·6	2	3. 32. 1·6	1	10. 50. 21·1	+2·3	3. 40. 36·7	−4·3	
661	8·5	10. 49. 53·0	2	8. 2. 8·9	2	10. 52. 30·9	−1·9	8. 10. 46·1	+0·7	
663	—	10. 51. 17·2	2	6. 19. 49·7	2	10. 54. 13·2	−0·6	6. 28. 28·0	−0·1	
664	7·5	10. 51. 59·4	2	3. 25. 51·4	2	10. 56. 9·6	+0·1	3. 34. 30·6	0·0	
665	7·5	10. 55. 21·4	3	7. 19. 51·4	3	10. 58. 0·1	+0·4	7. 28. 32·3	+5·1	Schwerd's Decls. disagree.
666	7·5	10. 56. 1·4	3	8. 7. 18·7	3	10. 58. 32·1	+1·0	8. 16. 0·0	−0·7	
673	8·0	11. 3. 44·4	5	5. 42. 46·2	5	11. 6. 31·8	−0·2	5. 51. 32·2	−1·6	
674	8·8	11. 5. 5·0	2	8. 5. 12·7	2	11. 7. 26·4	+1·1	8. 13. 59·3	+0·2	
681	—	11. 17. 0·3	2	6. 57. 26·2	2	11. 19. 16·4	+2·8	7. 6. 18·6	−2·4	
682	6·5	11. 17. 14·5	4	4. 20. 48·2	4	11. 20. 1·3	+1·2	4. 29. 40·8	+2·6	
683	8·8	11. 17. 24·6	1	8. 1. 3·6	2	11. 19. 33·2	+1·4	8. 9. 56·1	+0·6	
684	7·5	11. 19. 20·4	5	7. 55. 37·5	5	11. 21. 27·5	−1·1	8. 4. 30·9	−1·0	
685	7·0	11. 20. 43·7	2	3. 26. 10·0	2	11. 23. 43·1	+1·9	3. 35. 4·1	−2·7	
690	8·0	11. 27. 54·9	2	6. 57. 56·9	2	11. 29. 57·3	+1·4	7. 6. 53·4	−1·4	
691	—	11. 28. 48·7	1	8. 43. 6·5	1	11. 30. 42·3	+2·4	8. 52. 3·2	−1·8	
692	9·0	11. 32. 37·4	1	5. 36. 53·3	1	11. 34. 41·9	+0·5	5. 45. 51·1	+0·4	Corrected by Oeltzen.
693	8·0	11. 32. 56·8	3	6. 43. 30·7	3	11. 34. 54·1	+0·8	6. 52. 28·6	−1·6	
694	7·5	11. 33. 58·8	2	3. 30. 46·0	2	11. 36. 23·9	+1·7	3. 39. 44·3	+0·9	
696	9·5	11. 39. 20·1	2	4. 14. 56·4	2	11. 41. 23·9	−0·6	4. 23. 55·8	+0·9	
697	8·4	11. 39. 35·7	6	4. 2. 35·9	6	11. 41. 40·9	+0·8	4. 11. 35·4	0·0	
698	8·5	11. 40. 28·0	3	6. 22. 39·4	2	11. 42. 16·9	+0·9	6. 31. 39·0	+0·3	
700	8·0	11. 42. 4·0	3	2. 49. 30·5	3	11. 44. 19·1	−5·6	2. 58. 30·5	−8·9	Proper motion.
701	8·0	11. 43. 59·7	2	7. 6. 24·1	2	11. 45. 41·5	+1·9	7. 15. 24·3	−1·8	
702	9·0	11. 48. 35·4	2	6. 51. 43·1	2	11. 50. 12·1	−0·2	7. 0. 43·9	−2·9	
703	8·5	11. 48. 41·1	2	8. 24. 30·3	1	11. 50. 15·1	−1·3	8. 33. 31·1	+0·4	
704	8·0	11. 49. 33·9	2	2. 2. 49·9	2	11. 51. 36·8	−0·6	2. 11. 50·9	+1·8	
705	10·0	11. 49. 57·7	1	3. 59. 26·7	1	11. 51. 41·0	+0·1	4. 8. 27·7	−2·1	
707	6·5	11. 51. 6·9	2	8. 11. 14·6	2	11. 52. 38·7	−0·2	8. 20. 15·7	+0·1	
709	8·8	11. 54. 18·4	2	5. 39. 37·4	2	11. 55. 49·1	+1·6	5. 48. 38·7	−0·1	
710	7·8	11. 54. 23·7	3	7. 21. 15·9	3	11. 55. 52·6	+0·5	7. 30. 17·2	−2·4	
711	6·4	11. 55. 51·3	4	3. 27. 33·3	4	11. 57. 22·8	−1·0	3. 36. 34·7	−2·4	
716	6·8	12. 3. 5·2	4	7. 19. 58·5	4	12. 4. 23·6	−0·2	7. 28. 59·8	−1·8	
717	8·8	12. 3. 18·9	3	3. 57. 47·9	3	12. 4. 33·0	+2·2	4. 6. 49·2	+0·2	
718	8·0	12. 3. 37·0	2	7. 19. 46·9	2	12. 4. 54·8	+0·8	7. 28. 48·2	−4·9	Misprint in Oeltzen's Decl.
719	9·0	12. 3. 48·8	1	3. 20. 17·1	1	12. 5. 0·1	+0·7	3. 29. 18·4	−2·5	
721	8·0	12. 5. 35·1	2	5. 32. 24·7	2	12. 6. 48·1	+1·2	5. 41. 25·9	−0·8	
722	8·0	12. 5. 41·2	2	2. 6. 35·7	2	12. 6. 38·7	−0·8	2. 15. 36·9	+3·0	
726	6·5	12. 8. 36·9	3	8. 55. 3·7	3	12. 9. 50·6	+0·9	9. 4. 4·7	+1·7	
729	6·0	12. 11. 43·6	2	2. 36. 27·4	2	12. 12. 25·9	+7·6	2. 45. 28·1	+0·4	Corrected by Oeltzen.
732	7·8	12. 13. 51·3	3	5. 40. 14·5	3	12. 14. 51·7	+1·7	5. 49. 14·9	+0·1	The third obs. of 732 is 751 corrected.
733	6·0	12. 14. 32·1	9	1. 20. 48·4	9	12. 14. 23·3	−1·2	1. 29. 48·7	−1·9	
735	9·0	12. 16. 14·4	1	6. 23. 17·6	1	12. 17. 14·1	+2·4	6. 32. 17·6	−0·4	
736	8·3	12. 18. 23·7	2	5. 37. 4·8	2	12. 19. 16·9	+0·2	5. 46. 4·4	−2·0	
737	9·0	12. 18. 41·4	2	6. 22. 53·0	2	12. 19. 37·7	+1·7	6. 31. 52·5	−1·7	
742	8·0	12. 22. 54·1	2	7. 3. 10·7	2	12. 23. 47·6	−0·5	7. 12. 9·3	−3·7	
746	8·0	12. 27. 55·2	2	8. 6. 20·7	2	12. 28. 47·1	+0·9	8. 15. 18·0	−2·6	
747	6·5	12. 28. 47·5	2	8. 48. 4·7	2	12. 29. 41·0	0·0	8. 57. 1·7	−4·3	
752	7·0	12. 34. 50·8	2	3. 19. 18·4	2	12. 34. 41·8	+1·6	3. 28. 13·6	−1·8	
756	7·0	12. 36. 54·2	2	5. 24. 42·6	2	12. 37. 16·5	−2·9	5. 33. 36·9	−1·9	
760	6·0	12. 40. 3·9	2	8. 26. 7·3	2	12. 40. 44·5	+1·4	8. 35. 0·3	+0·1	
763	7·0	12. 44. 56·4	3	8. 39. 20·2	3	12. 45. 33·2	+1·3	8. 48. 11·1	−1·9	
764	9·0	12. 46. 2·0	1	3. 36. 47·3	1	12. 45. 33·7	−2·2	3. 45. 37·9	−1·6	
765	9·0	12. 46. 50·1	2	6. 38. 0·2	2	12. 47. 10·5	+1·5	6. 46. 50·3	−0·5	
766	4·5	12. 47. 51·9	3	5. 38. 46·6	3	12. 47. 59·9	−0·5	5. 47. 36·2	+0·4	
767	4·2	12. 47. 59·5	6	5. 39. 5·2	6	12. 48. 7·5	−0·3	5. 47 54·8	−0·1	
768	9·0	12. 48. 4·3	1	6. 32. 46·6	1	12. 48. 22·2	+0·2	6. 41. 36·1	−0·7	
771	6·7	12. 52. 32·2	3	6. 33. 0·3	3	12. 52. 44·3	+1·4	6. 41. 47·5	+0·9	
774	9·0	12. 58. 42·7	2	1. 5. 20·7	2	12. 52. 56·5	−6·6	1. 14. 6·2	+0·4	{ Schwerd's R.A. appears to be good.
775	8·8	12. 58. 52·3	2	6. 8. 19·9	2	12. 58. 51·0	+0·3	6. 17. 3·6	−1·3	
776	8·0	13. 3. 13·2	2	3. 11. 21·7	2	13. 1. 45·6	+0·7	3. 20. 3·1	+1·7	
777	8·5	13. 3. 46·9	2	2. 24. 31·5	2	13. 1. 25·6	−2·7	2. 33. 32·9	−4·6	
778	9·0	13. 5. 27·2	2	5. 26. 53·3	2	13. 5. 5·2	+0·8	5. 35. 32·9	−5·8	
781	6·7	13. 11. 0·4	3	8. 37. 2·3	3	13. 11. 11·2	+0·4	8. 45. 37·9	+0·6	
782	9·0	13. 11. 4·9	2	5. 25. 17·3	2	13. 10. 33·7	+2·4	5. 33. 53·1	−3·7	

Schwerd's positions brought up to 1855·0.

No.	Mag.	R.A. 1828·0.	Obs.	N.P.D. 1828·0.	Obs.	R.A. 1855·0.	C−S.	N.P.D 1855·0.	C−S.	Notes.
		h m s		° ′ ″		h m s	s	° ′ ″	″	
783	8·8	13. 15. 38·3	2	0. 42. 42·0	2	13. 3. 50·3	+3·2	0. 51. 18·8	−0·3	
784	8·5	13. 16. 43·1	2	7. 35. 30·0	2	13. 16. 37·9	−0·1	7. 44. 1·4	−0·5	
785	7·5	13. 18. 10·3	4	1. 25. 51·8	4	13. 12. 9·8	+0·7	1. 34. 24·4	+1·8	
786	9·0	13. 19. 26·0	2	5. 11. 24·2	2	13. 18. 36·4	+1·1	5. 19. 53·8	+1·4	
787	9·0	13. 20. 41·4	2	0. 23. 0·5	2	12. 59. 18·0	+2·2	0. 31. 37·5	+5·2	The second observation is No. 825 corrected.
788	7·3	13. 22. 2·1	2	4. 20. 45·9	2	13. 20. 42·6	−2·5	4. 29. 13·6	−0·4	
789	7·0	13. 22. 48·8	2	5. 12. 6·3	2	13. 21. 54·1	−0·9	5. 20. 33·1	−0·5	
792	9·0	13. 27. 38·9	1	2. 46. 58·9	1	13. 24. 36·0	0·0	2. 55. 22·6	−0·5	
794	7·3	13. 28. 42·4	2	5. 48. 18·3	2	13. 27. 53·5	+1·2	5. 56. 40·0	−1·5	
796	9·0	13. 33. 11·1	1	8. 47. 47·8	1	13. 33. 2·5	+0·8	8. 56. 5·1	0·0	
797	9·0	13. 33. 18·4	1	7. 7. 24·5	1	13. 32. 48·3	+1·3	7. 15. 41·9	+0·6	
798	8·5	13. 34. 15·3	2	2. 32. 46·9	2	13. 30. 28·3	+0·3	2 41. 5·0	+1·9	
800	7·8	13. 37. 58·3	4	3. 50. 52·4	4	13. 35. 44·9	−1·5	3. 59. 6·2	+0·1	
801	8·5	13. 38. 24·2	1	8. 38. 42·6	1	13. 38. 9·1	+0·7	8. 46. 55·0	−6·1	
803	10·0	13. 40. 32·0	1	8. 5. 39·6	1	13. 40. 8·3	+1·1	8. 13. 50·0	−2 8	Oeltzen's first Decl. has been increased 10″. Error of reduction,
805	7·8	13. 42. 26·8	3	8. 4. 40·5	2	13. 42. 1·0	−0·1	8. 12. 48·9	−1·6	
806	6·8	13. 42. 54·6	2	8: 55. 56·3	2	13. 42. 38·7	+0·4	9. 4. 4·2	0·0	
807	8·5	13. 44. 15·4	2	1. 34. 12·1	2	13. 36. 42·5	+1·1	1. 42. 22·4	+0·5	
808	8·5	13. 44. 53·5	2	8. 24. 57·0	2	13. 44. 29·7	−0·1	8. 33. 2·9	−3·9	
809	6·0	13. 47. 41·8	11	6. 23. 10·1	11	13. 46. 40·9	+1·3	6. 31. 13·4	+0·7	
811	9·0	13. 48. 56·2	2	3. 52. 45·5	2	13. 46. 22·3	+1·9	4. 0. 48·3	−2·3	
814	6·3	13. 53. 47·1	4	8. 23. 13·0	4	13. 53. 14·6	+1·3	8. 31. 9·4	−2·2	
817	8·0	13. 56. 55·2	2	4. 38. 20·9	2	13. 54. 45·8	+0·2	4. 46. 14·6	−3·9	Corrected by Oeltzen.
820	8·5	14. 1. 20·3	2	7. 33. 11·9	2	14. 0. 27·3	+1·0	7. 40. 59·7	−0·2	
821	9·0	14. 3. 24·3	1	2. 39. 39·1	1	13. 58. 25·5	+1·2	2. 47. 26·9	−6·1	Faint. Only 1 obs.
823	8·5	14. 3. 43·9	3	3. 57. 46·4	3	14. 0. 46·1	+1·1	4. 5. 32·6	−1·4	
827	7·5	14. 8. 57·7	3	3. 25. 16·1	3	14. 5. 10·1	−3·8	3. 32. 56·4	−3·6	The R.A.s have been corrected by Oeltzen.
830	—	14. 12. 18·2	1	8. 1. 59·4	1	14. 11. 23·0	+1·4	8. 9. 33·7	−3·6	
831	9·0	14. 13. 4·3	1	1. 51. 41·6	1	14. 4. 54·2	+1·7	1. 59. 19·6	+0·1	
838	8·8	14. 22. 30·4	2	7. 31. 28·4	2	14. 21. 16·0	+2·2	7. 38. 49·3	−3·3	
841	8·5	14. 27. 50·6	4	5. 16. 25·1	4	14. 25. 22·8	+1·6	5. 23. 39·5	−3·1	
843	9·0	14. 29. 8·3	2	8. 38. 34·2	2	14. 28. 8·8	+0·8	8. 45. 45·7	−2·4	
845	9·0	14. 29. 40·5	1	4. 39. 17·6	1	14. 26. 39·8	+1·5	4. 46. 29·8	−2·1	Corrected by Oeltzen.
846	9·0	14. 31. 25·4	2	6. 29. 19·6	2	14. 29. 36·4	+1·0	6. 36. 28·4	−1·1	
847	9·0	14. 34. 54·7	1	7. 16. 44·9	1	14. 33. 23·0	+0·6	7. 23. 48·4	−2·5	Corrected by Oeltzen.
849	7·0	14. 35. 56·1	2	8. 25. 51·3	1	14. 34. 47·3	−0·2	8. 32. 53·0	+1·2	
850	9·0	14. 37. 4·1	2	8. 41. 6·8	2	14. 35. 58·9	+0·4	8. 48. 6·8	−5·3	
851	9·0	14. 37. 51·8	1	8. 54. 20·9	1	14. 36. 49·7	+1·3	9. 1. 19·7	−2·1	
852	9·0	14. 38. 9·9	1	8. 54. 45·2	1	14. 37. 7·7	+1·0	9. 1. 43·5	−2·0	
855	8·5	14. 38. 43·8	1	7. 47. 59·2	1	14. 37. 20·3	+1·2	7. 54. 56·9	0·0	
857	9·0	14. 41. 23·8	2	8. 33. 16·9	2	14. 40. 12·9	+0·5	8. 40. 10·4	−3·5	
858	8·8	14. 41. 32·2	2	3. 38. 16·5	2	14. 36. 57·3	−0·2	3. 45. 12·4	−1·9	
859	9·0	14. 42. 30·4	1	5. 47. 48·1	1	14. 40. 5·5	+2·3	5. 54. 40·9	−3·8	
860	9·0	14. 42. 49·0	2	1. 48. 42·9	2	14. 32. 29·9	+5·3	1. 55. 41·3	−0·7	
863	8·5	14. 47. 56·3	2	6. 48. 23·8	2	14. 45. 59·6	+1·0	6. 55. 7·8	−2·3	
865	9·0	14. 48. 54·3	1	3. 59. 8·0	1	14. 44. 37·5	+0·7	4. 5. 52·3	−2·2	
867	9·0	14. 50. 56·8	1	6. 49. 0·5	1	14. 48. 57·4	+1·4	6. 55. 39·8	−2·1	
869	9·0	14. 57. 11·4	1	4. 25. 2·2	1	14. 53. 14·8	+2·2	4. 31. 33·0	−1·8	
870	8·5	14. 57. 17·8	1	7. 44. 7·8	1	14. 55. 37·1	+0·8	7. 50. 36·5	+0·6	
873	7·3	14. 58. 35·9	2	8. 33. 29·5	2	14. 57. 11·8	+0·5	8. 39. 55·8	−3·4	
876	6·0	15. 2. 34·3	6	6. 47. 18·7	6	15. 0. 23·2	+3·5	6. 53. 39·1	+6·0	Proper motion.
877	7·0	15. 4. 18·0	2	3. 20. 57·6	2	14. 58. 28·9	+0·2	3. 27. 18·2	−0·8	
881	8·8	15. 7. 52·1	2	4. 0. 42·0	2	15. 3. 7·2	+3·7	4. 6. 55·6	−1·3	
884	6·8	15. 10. 0·3	2	5. 23. 12·5	2	15. 6. 45·5	+1·4	5. 29. 21·1	−0·9	
890	8·5	15. 14. 30·7	2	6. 9. 3·6	2	15. 11. 45·6	+0·3	6. 15. 3·9	−2·6	
891	9·0	15. 15. 50·0	1	6. 1. 5·0	1	15. 12. 58·2	+1·0	6. 7. 3·1	−1·9	
892	9·0	15. 15. 59·0	2	5. 18. 46·7	2	15. 12. 33·6	+1·8	5. 24. 45·0	+0·5	
893	8·5	15. 16. 50·5	1	7. 0. 12·6	1	15. 14. 33·5	+0·5	7. 6. 8·4	−0·1	
898	7·5	15. 18. 19·4	2	6. 31. 52·5	2	15. 15. 45·2	+2·1	6. 37. 45·9	−4·9	
900	8·3	15. 19. 55·4	2	3. 50. 27·9	2	15. 14. 35·8	−0·8	3. 56. 20·9	−1·8	
901	9·0	15. 20. 3·3	1	5. 55. 54·2	1	15. 17. 3·6	+0·9	6. 1. 44·8	+0·9	
902	9·0	15. 21. 7·1	1	8. 40. 42·2	1	15. 19. 29·7	+1·2	8. 46. 29·7	−3·2	
904	7·5	15. 21. 24·8	4	4. 13. 24·5	4	15. 16. 38·9	−1·4	4. 19. 14·3	−0·5	
905	9·0	15. 22. 37·7	2	4. 17. 18·4	2	15. 17. 55·6	+2·4	4. 23. 5·9	−2·5	
911	9·0	15. 24. 59·2	2	3. 26. 49·7	2	15. 18. 46·3	−0·9	3. 32. 34·4	+0·6	
912	8·5	15. 25. 17·2	2	8. 57. 56·6	2	15. 23. 43·0	+2·7	9. 3. 36·4	−1·6	
914	9·0	15. 30. 54·9	2	8. 15. 39·0	2	15. 29. 1·7	+0·8	8. 21. 8·7	−1·3	
915	9·0	15. 31. 4·9	2	8. 56. 19·7	2	15. 29. 26·5	+1·3	9. 1. 48·8	−2·7	
916	7·8	15. 31. 24·6	2	8. 21. 47·1	2	15. 29. 33·4	+1·0	8. 27. 15·8	−2·8	
917	9·0	15. 31. 51·6	2	7. 24. 50·2	2	15. 29. 35·3	+0·3	7. 30. 18·4	−3·3	Schwerd's Decls. disagree.
922	7·5	15. 37. 15·2	5	2. 7. 44·1	5	15. 25. 59·7	0·0	2. 13. 10·8	−1·4	
923	8·0	15. 37. 37·1	3	7. 31. 32·9	3	15. 35. 19·9	+3·6	7. 36. 50·2	−0·8	
924	8·0	15. 38. 41·0	2	5. 33. 2·3	2	15. 35. 5·0	+0·3	5. 38. 18·9	−1·9	
925	6·0	15. 39. 31·8	2	8. 59. 13·3	2	15. 37. 49·4	−2·2	9. 4. 26·4	−0·9	
926	6·5	15. 39. 44·6	2	8. 59. 12·9	2	15. 38. 2·1	−2·1	9. 4. 25·6	−4·5	
927	6·5	15. 40. 42·6	2	8. 39. 51·0	2	15. 38. 52·7	+1·6	8. 45. 2·0	−2·7	
930	9·0	15. 44. 6·8	1	8. 23. 29·2	1	15. 42. 8·4	+0·9	8. 28. 33·7	−2·1	
931	6·0	15. 44. 43·3	2	7. 10. 34·0	2	15. 42. 10·3	+2·7	7. 15. 37·9	−0·6	
932	7·8	15. 47. 43·7	2	8. 50. 45·2	2	15. 45. 53·7	+1·3	8. 55. 42·4	−2·7	
937	8·5	15. 50. 36·2	1	7. 37. 47·7	1	15. 48. 13·5	+0·4	7. 42. 39·8	−1·7	Corrected by Oeltzen.
938	9·0	15. 50. 57·2	1	4. 56. 17·3	1	15. 46. 31·8	+4·3	5. 1. 10·7	−1·1	
940	9·0	15. 53. 30·5	1	6. 38. 57·0	1	15. 50. 32·4	+1·0	6. 43. 43·9	−1·5	
941	8·5	15. 53. 41·7	2	2. 23. 32·0	2	15. 43. 11·2	−0·4	2. 28. 26·1	−1·7	
942	6·3	15. 55. 7·5	2	4. 37. 31·1	2	15. 50. 14·6	+0·5	4. 42. 16·7	−0·5	
943	9·0	15. 55. 14·7	2	4. 45. 33·0	2	15. 50. 32·1	+1·7	4. 50. 18·1	+0·2	
944	8·5	15. 56. 30·2	2	8. 10. 8·5	2	15. 54. 19·0	−0·9	8. 14. 48·5	−4·4	

Schwerd's positions brought up to 1855·0.

No.	Mag.	R.A. 1828·0.	Obs.	N.P.D. 1828·0.	Obs.	R.A. 1855·0.	C−S.	N.P.D. 1855·0.	C−S.	Notes.
		h m s		° ′ ″		h m s	s	° ′ ″	″	
945	7·3	15. 56. 39·9	2	8. 33. 17·1	2	15. 54. 38·3	+1·9	8. 37. 56·7	−0·6	
947	9·0	16. 0. 11·0	1	4. 34. 12·1	1	15. 55. 8·4	+1·7	4. 38. 47·6	−1·5	
948	8·0	16. 1. 55·3	2	6. 32. 47·7	2	15. 58. 47·2	+1·2	6. 37. 17·7	−0·8	
949	8·5	16. 2. 17·9	3	7. 7. 42·9	3	15. 59. 31·6	+1·1	7. 12. 11·8	+0·3	
950	9·0	16. 4. 18·4	1	4. 14. 14·3	1	15. 58. 41·5	−0·5	4. 18. 42·0	−0·9	Corrected by Oeltzen.
951	9·0	16. 4. 49·8	3	7. 9. 20·5	3	16. 2. 2·9	+1·2	7. 13. 44·2	−2·7	
952	9·0	16. 6. 20·7	2	8. 53. 4·4	2	16. 4. 21·8	+1·0	8. 57. 24·1	−1·5	
954	9·0	16. 7. 47·5	1	6. 14. 18·7	1	16. 4. 21·9	+2·1	6. 18. 36·9	−0·7	Corrected by Oeltzen.
956	8·0	16. 7. 58·5	1	6. 42. 36·8	2	16. 4. 52·9	+0·6	6. 46. 54·3	−0·5	
957	9·0	16. 8. 0·7	2	8. 41. 14·7	2	16. 5. 56·4	+0·4	8. 45. 31·0	+1·0	
958	7·5	16. 10. 44·4	2	5. 54. 0·6	2	16. 7. 0·1	+0·5	5. 58. 13·0	−3·7	
959	9·0	16. 10. 48·5	2	1. 59. 33·5	2	15. 57. 20·1	−5·5	2. 3. 56·0	−1·9	Schwerd's R.As disagree.
960	7·3	16. 12. 22·9	3	4. 13. 9·9	3	16. 6. 35·9	−0·9	4. 17. 21·0	−1·0	
961	8·5	16. 12. 30·1	2	4. 56. 27·9	2	16. 7. 45·2	−0·4	5. 0. 37·7	−5·6	
963	7·0	16. 12. 46·6	2	8. 55. 7·2	2	16. 10. 45·5	+0·3	8. 59. 13·5	−1·9	
964	9·0	16. 13. 44·4	2	6. 50. 18·0	1	16. 10. 40·4	+1·1	6. 54. 23·4	−2·9	
965	8·5	16. 15. 2·1	3	6. 59. 40·9	3	16. 12. 3·2	+1·7	7. 3. 43·5	−2·0	
967	8·8	16. 21. 30·3	2	8. 52. 10·2	2	16. 19. 24·1	+1·1	8. 55. 58·0	+0·9	
968	9·0	16. 21. 33·4	1	7. 5. 30·1	1	16. 18. 34·5	+2·1	7. 9. 18·8	+0·4	
969	8·0	16. 21. 44·6	2	6. 9. 22·2	2	16. 18. 5·8	0·0	6. 13. 11·2	−0·2	
971	8·3	16. 23. 53·1	2	8. 26. 17·3	2	16. 21. 35·1	+1·2	8. 30. 0·3	+0·1	
972	9·0	16. 26. 7·2	2	1. 54. 24·9	2	16. 11. 26·1	+1·0	1. 58. 16·5	−1·0	
973	8·3	16. 26. 45·1	3	7. 30. 33·8	3	16. 23. 58·2	+1·5	7. 34. 11·1	−0·1	
975	9·0	16. 30. 34·7	3	7. 30. 55·6	3	16. 27. 46·2	+1·7	7. 34. 24·6	−1·9	
977	8·0	16. 31. 17·6	3	8. 39. 45·2	3	16. 29. 2·3	+1·8	8. 43. 12·0	−1·7	
978	8·0	16. 32. 15·2	1	6. 58. 30·3	1	16. 29. 6·3	−0·1	7. 1. 56·0	−2·9	
983	8·8	16. 38. 21·4	2	3. 47. 22·9	2	16. 31. 20·2	−0·2	3. 50. 39·5	+0·8	
984	9·0	16. 40. 1·0	1	5. 49. 36·9	1	16. 35. 54·2	−0·5	5. 52. 46·6	−4·0	
985	9·0	16. 40. 25·6	2	2. 5. 31·0	2	16. 26. 41·6	−1·8	2. 8. 50·5	−2·8	
987	9·0	16. 43. 6·3	2	5. 4. 29·5	2	16. 38. 8·8	+1·2	5. 7. 33·3	−2·1	
988	7·0	16. 44. 13·2	2	5. 56. 38·7	2	16. 40. 10·6	+0·4	5. 59. 39·0	−1·5	
994	9·0	16. 51. 58·7	4	5. 40. 22·6	4	16. 47. 36·6	+1·3	5. 43. 5·9	−0·6	Schwerd's first R.A. has been increased by 1ᵐ.
998	9·0	16. 55. 58·8	2	3. 26. 24·0	2	16. 47. 51·2	−0·2	3. 29. 2·5	+0·8	
1006	10·0	17. 1. 55·0	1	0. 14. 43·6	1	15. 14. 14·3	+30·6	0. 19. 5·0	0·0	
1007	4·4	17. 3. 54·0	17	7. 41. 38·5	17	17. 0. 58·7	+0·4	7. 43. 53·1	−0·8	
1010	9·0	17. 4. 34·7	1	8. 27. 32·5	1	17. 2. 2·8	+1·1	8. 29. 45·1	−2·0	
1011	9·0	17. 7. 12·4	2	4. 5. 0·1	2	17. 0. 27·0	+1·0	4. 7. 11·5	−2·4	
1012	9·0	17. 8. 1·3	1	6. 33. 12·6	1	17. 4. 19·5	+1·5	6. 35. 18·6	−1·8	
1015	9·0	17. 10. 25·1	3	5. 16. 32·2	3	17. 5. 28·4	+0·8	5. 18. 34·1	−2·1	
1016	7·0	17. 10. 59·4	2	8. 54. 27·0	2	17. 8. 38·0	+0·4	8. 56. 24·6	−0·4	
1017	—	17. 11. 23·4	2	8. 31. 38·0	2	17. 8. 51·7	+0·7	8. 33. 34·9	−1·0	
1019	8·5	17. 12. 33·3	3	5. 4. 24·8	3	17. 7. 20·6	−0·4	5. 6. 22·1	−2·1	
1023	9·0	17. 20. 38·9	2	8. 25. 51·7	2	17. 18. 2·5	+0·4	8. 27. 27·2	−2·7	
1025	9·0	17. 21. 7·4	1	7. 29. 30·4	1	17. 18. 0·6	+2·4	7. 31. 5·4	−1·6	Schwerd's first Decl. has been diminished 40″.
1027	9·0	17. 25. 19·1	2	6. 36. 3·3	2	17. 21. 34·6	+0·7	6. 37. 29·3	−2·1	
1028	7·5	17. 26. 24·6	3	5. 1. 47·6	3	17. 21. 3·5	+0·3	5. 3. 12·9	−3·2	
1032	8·8	17. 32. 35·2	2	3. 43. 9·5	2	17. 24. 49·6	−1·0	3. 44. 23·2	−3·0	
1035	—	17. 34. 17·0	2	7. 31. 15·3	2	17. 31. 8·8	+0·6	7. 32. 19·6	+0·6	
1036	9·0	17. 35. 23·7	2	8. 29. 9·3	2	17. 32. 46·5	+0·6	8. 30. 10·4	−2·4	
1039	—	17. 37. 20·8	2	6. 32. 10·0	2	17. 33. 30·8	+0·7	6. 33. 7·9	+0·6	
1041	9·0	17. 38. 12·5	1	8. 29. 27·1	1	17. 35. 35·1	+0·7	8. 30. 21·6	−2·1	Re-examined by Oeltzen.
1042	8·5	17. 38. 20·4	1	7. 8. 25·1	1	17. 34. 57·0	+0·6	7. 9. 20·2	−8·4	Probably an error of 10″.
1043	9·0	17. 39. 49·5	1	9. 1. 16·6	1	17. 37. 26·3	+0·9	9. 2. 7·0	+1·5	
1045	7·8	17. 42. 8·9	3	5. 15. 30·5	3	17. 37. 1·7	+1·1	5. 16. 18·7	+1·1	
1047	—	17. 42. 42·9	2	6. 10. 27·0	2	17. 38. 33·7	+0·2	6. 11. 12·7	−1·6	
1048	7·5	17. 42. 47·8	2	6. 32. 47·1	2	17. 38. 57·5	+0·9	6. 33. 32·2	−4·2	
1049	9·0	17. 43. 14·9	1	7. 17. 16·2	1	17. 39. 56·7	+1·1	7. 17. 59·6	−1·4	
1057	9·0	17. 52. 7·9	1	5. 58. 26·1	1	17. 47. 46·4	+1·4	5. 58. 49·8	−1·5	Corrected by Oeltzen.
1058	10·0	17. 53. 7·4	1	1. 46. 24·4	1	17. 35. 10·5	+2·7	1. 47. 1·9	−2·0	
1062	9·0	17. 58. 24·9	3	5. 10. 26·7	3	17. 53. 9·4	+0·5	5. 10. 36·7	+1·5	
1063	9·0	17. 59. 7·6	1	3. 1. 25·9	1	17. 49. 7·8	+0·5	3. 1. 39·8	−0·5	Corrected by Oeltzen.
1064	9·0	17. 59. 28·5	1	9. 1. 18·5	1	17. 57. 4·2	+1·4	9. 1. 22·6	+0·4	
1066	9·0	18. 1. 25·8	2	5. 43. 8·9	2	17. 56. 48·3	+1·0	5. 43. 11·0	−1·6	
1068	9·0	18. 6. 57·5	1	5. 55. 33·8	1	18. 2. 32·7	+0·9	5. 55. 22·6	+0·5	
1069	9·0	18. 9. 17·8	2	8. 20. 42·3	2	18. 6. 34·7	+0·8	8. 20. 23·5	−2·6	
1070	9·0	18. 9. 40·5	2	8. 41. 40·9	2	18. 7. 7·5	0·0	8. 41. 21·1	−1·2	
1071	9·0	18. 10. 28·1	1	5. 5. 37·2	1	18. 5. 6·1	+0·3	5. 5. 18·8	−0·3	
1074	9·0	18. 12. 18·9	2	6. 34. 27·3	2	18. 8. 28·9	+0·1	6. 34. 2·7	−5·3	
1079	9·0	18. 17. 3·3	1	7. 32. 33·5	1	18. 13. 54·1	−0·5	7. 31. 57·0	−0·3	Schwerd's R.A. has been increased by 1ᵐ.
1082	8·8	18. 19. 55·4	2	5. 18. 49·9	2	18. 14. 50·9	−0·9	5. 18. 8·9	−1·7	
1083	9·0	18. 19. 55·8	2	5. 37. 8·7	2	18. 15. 12·6	+0·7	5. 36. 27·2	−1·4	
1084	8·0	18. 20. 1·3	2	6. 7. 9·9	2	18. 15. 48·3	−0·1	6. 6. 27·6	+1·1	
1085	8·0	18. 21. 57·7	5	8. 34. 22·9	5	18. 19. 22·0	+0·6	8. 33. 34·1	−2·8	Schwerd's third R.A. rejected. His meridian error is ill-determined.
1087	8·0	18. 24. 36·8	2	4. 20. 40·9	3	18. 18. 5·9	+0·6	4. 19. 50·4	+1·3	
1088	9·0	18. 25. 14·1	2	2. 10. 50·5	2	18. 10. 49·3	+0·4	2. 10. 7·9	−0·7	
1089	9·0	18. 25. 59·9	2	8. 36. 5·7	2	18. 23. 25·4	+0·7	8. 35. 7·4	−0·3	
1090	9·0	18. 27. 56·6	1	7. 40. 10·5	1	18. 24. 53·0	−0·3	7. 39. 8·2	−4·1	
1093	7·3	18. 29. 17·6	3	8. 36. 44·0	3	18. 26. 43·8	+0·4	8. 35. 38·0	+0·6	
1094	7·5	18. 32. 1·1	2	7. 9. 0·4	2	18. 28. 38·4	−1·5	7. 7. 49·0	−3·3	
1095	7·5	18. 32. 4·5	2	6. 23. 48·1	2	18. 28. 7·8	+0·2	6. 22. 37·2	−1·6	
1096	8·8	18. 33. 31·3	2	5. 41. 59·5	2	18. 28. 55·3	+0·5	5. 40. 46·0	+1·7	
1099	5·0	18. 34. 16·1	2	3. 2. 32·8	2	18. 24. 23·3	+2·3	3. 1. 23·7	+0·4	
1100	8·3	18. 34. 34·9	2	6. 50. 43·7	2	18. 30. 59·8	−0·9	6. 49. 26·5	−1·6	
1102	8·3	18. 35. 52·9	2	2. 37. 0·2	2	18. 24. 9·8	+1·5	2. 35. 49·5	+0·9	
1103	8·5	18. 37. 9·9	2	7. 14. 30·3	2	18. 33. 51·8	+1·0	7. 13. 6·7	+0·1	
1104	7·8	18. 37. 37·9	2	5. 26. 8·7	2	18. 32. 45·1	+1·6	5. 24. 45·9	+0·3	

Schwerd's positions brought up to 1855·0.

No.	Mag.	R.A. 1828·0.	Obs.	N.P.D. 1828·0.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
		h m s		° ′ ″		h m s	s	° ′ ″	″	
1106	8·3	18. 37. 59·5	2	7. 48. 42·6	2	18. 35. 2·3	+0·1	7. 47. 16·7	−3·9	
1107	9·0	18. 39. 22·1	1	6. 3. 32·0	1	18. 35. 8·8	+2·7	6. 2. 4·4	−0·7	
1108	9·0	18. 39. 29·0	2	7. 14. 15·9	2	18. 36. 11·1	+1·0	7. 12. 46·9	−3·5	
1110	9·0	18. 40. 36·9	2	6. 17. 40·6	2	18. 36. 36·6	+0·7	6. 16. 9·8	−1·8	
1111	8·3	18. 42. 9·5	2	1. 46. 52·9	3	18. 24. 16·6	+0·5	1. 45. 34·6	−1·0	Schwerd's third R.A. rejected.
1112	8·0	18. 43. 36·3	2	7. 25. 58·0	2	18. 40. 26·7	+0·1	7. 24. 19·3	+0·2	
1113	8·8	18. 44. 14·9	3	5. 50. 15·2	3	18. 39. 49·9	−0·9	5. 48. 36·4	−4·3	
1114	7·0	18. 46. 5·5	2	6. 46. 32·6	2	18. 42. 29·7	+0·9	6. 44. 48·6	+0·6	
1115	5·5	18. 46. 37·9	3	6. 58. 15·1	3	18. 43. 10·7	+0·6	6. 56. 29·7	+0·3	
1116	9·0	18. 47. 1·0	2	5. 31. 10·8	2	18. 42. 16·5	+0·5	5. 29. 26·0	+1·0	S.'s 2nd Dec. dimin^{d} by 20″.
1117	9·0	18. 48. 9·0	1	5. 51. 12·7	1	18. 43. 46·0	+2·2	5. 49. 24·8	−1·9	Corrected by Oeltzen.
1118	8·1	18. 48. 22·3	3	3. 31. 56·0	3	18. 40. 8·9	+0·3	3. 30. 12·1	−0·5	
1124	8·5	18. 57. 30·3	2	2. 4. 1·8	2	18. 42. 28·9	+1·5	2. 2. 4·6	−0·6	
1126	8·6	18. 59. 3·2	5	1. 18. 34·2	5	18. 34. 20·8	+2·9	1. 16. 44·5	−0·5	
1128	9·0	18. 59. 54·0	1	8. 59. 55·6	1	18. 57. 36·0	+1·5	8. 57. 38·3	−1·6	Corrected by Oeltzen.
1129	9·0	18. 59. 51·5	1	5. 33. 34·0	1	18. 55. 14·0	+1·1	5. 31. 19·5	−3·5	
1131	9·0	18. 59. 57·2	1	3. 56. 42·7	1	18. 52. 50·1	−0·5	3. 54. 30·8	−3·6	
1132	9·0	19. 0. 48·5	1	7. 57. 45·9	1	18. 58. 1·5	+0·1	7. 55. 27·1	−2·8	
1133	8·8	19. 2. 23·5	2	6. 53. 59·7	2	18. 58. 57·7	+0·9	6. 51. 38·0	+1·9	
1134	9·0	19. 8. 20·0	1	3. 54. 19·2	1	19. 1. 12·4	+2·1	3. 51. 48·2	−2·8	Corrected by Oeltzen.
1136	6·4	19. 9. 39·3	5	3. 31. 19·1	5	19. 1. 36·2	−0·1	3. 28. 46·1	−0·4	
1139	6·3	19. 12. 7·9	3	7. 53. 27·6	3	19. 9. 22·0	+0·7	7. 50. 43·1	+0·6	
1141	9·0	19. 12. 57·4	2	5. 41. 48·0	2	19. 8. 34·2	+1·6	5. 39. 3·5	+0·7	{ Schwerd's first Decl. is discordant.
1143	7·5	19. 14. 13·2	4	6. 20. 55·1	4	19. 10. 26·6	+0·9	6. 18. 7·0	+1·0	
1144	10·0	19. 16. 1·0	1	4. 37. 42·4	1	19. 10. 18·4	+4·0	4. 34. 52·5	−0·3	
1147	9·0	19. 17. 19·4	1	3. 51. 46·7	1	19. 10. 12·1	+0·3	3. 48. 55·4	−2·3	
1150	8·0	19. 19. 26·6	2	7. 37. 0·8	2	19. 16. 34·3	+0·7	7. 34. 0·0	−3·3	
1151	9·0	19. 19. 40·3	2	8. 38. 16·9	2	19. 17. 18·8	+1·5	8. 35. 15·1	−1·6	
1157	9·0	19. 26. 10·6	2	9. 2. 56·7	2	19. 24. 1·7	+0·6	8. 59. 40·2	+0·9	
1163	8·5	19. 30. 13·2	2	8. 41. 26·1	2	19. 27. 56·9	+0·2	8. 38. 0·9	−0·5	
1164	8·5	19. 30. 42·0	2	8. 24. 14·2	2	19. 28. 18·2	+0·5	8. 20. 48·1	+1·5	
1167	9·0	19. 32. 43·4	1	5. 43. 10·5	1	19. 28. 32·1	+0·4	5. 39. 41·9	−0·1	
1169	8·0	19. 34. 59·2	3	8. 33. 35·3	3	19. 32. 41·4	0·0	8. 29. 59·8	+1·6	
1171	8·8	19. 36. 33·4	3	8. 36. 54·4	3	19. 34. 17·7	+0·7	8. 33. 15·4	+5·2	
1172	6·7	19. 36. 36·9	4	6. 53. 18·8	4	19. 33. 25·2	+0·1	6. 49. 40·7	+1·3	
1173	8·5	19. 37. 17·0	1	5. 33. 36·7	1	19. 32. 58·8	−0·1	5. 29. 58·3	+0·1	
1175	8·5	19. 40. 3·5	1	2. 59. 24·8	1	19. 30. 48·0	+1·0	2. 55. 45·8	−3·1	Corrected by Oeltzen.
1176	9·0	19. 41. 1·1	1	3. 34. 7·9	1	19. 33. 32·0	+1·4	3. 30. 24·9	−2·7	Corrected by Oeltzen.
1177	9·0	19. 40. 58·5	1	7. 27. 38·9	1	19. 38. 10·3	+2·3	7. 23. 51·0	+0·9	
1179	9·0	19. 44. 11·2	1	6. 5. 10·0	1	19. 40. 27·2	+1·7	6. 1. 16·2	−2·2	
1182	9·0	19. 45. 38·1	1	1. 29. 50·2	1	19. 25. 31·8	+5·4	1. 26. 10·6	−4·0	
1184	8·5	19. 47. 26·9	1	2. 28. 14·2	1	19. 36. 4·3	+1·2	2. 24. 21·5	−2·5	
1190	8·3	19. 49. 51·2	3	4. 17. 22·0	3	19. 44. 0·9	+2·5	4. 13. 18·4	−1·8	
1192	8·8	19. 51. 35·2	2	4. 17. 39·3	2	19. 45. 47·0	+0·7	4. 13. 32·0	+1·6	
1195	8·5	19. 53. 34·9	1	7. 4. 35·3	1	19. 50. 39·9	+0·6	7. 0. 20·9	+0·4	
1199	7·5	20. 1. 19·9	3	8. 52. 32·3	3	19. 59. 21·9	+1·9	8. 48. 0·9	+0·2	
1201	8·5	20. 4. 21·4	2	5. 40. 28·6	2	20. 0. 29·6	+0·3	5. 35. 52·9	+1·8	
1202	7·8	20. 5. 10·8	2	8. 0. 56·0	2	20. 2. 53·0	0·0	7. 56. 17·1	+0·8	
1203	8·5	20. 7. 6·3	2	5. 43. 54·5	2	20. 3. 19·9	+2·6	5. 39. 13·2	−2·7	
1206	9·0	20. 15. 1·5	2	7. 11. 25·5	2	20. 12. 24·2	−0·1	7. 6. 27·2	+0·9	
1207	9·0	20. 16. 32·3	2	4. 36. 45·1	2	20. 11. 38·9	+1·2	4. 31. 46·1	+2·8	
1208	8·5	20. 17. 11·3	2	7. 5. 36·9	2	20. 14. 32·3	+0·9	7. 0. 34·4	+1·9	
1209	9·0	20. 19. 27·3	1	7. 41. 5·1	1	20. 17. 8·7	+0·5	7. 35. 57·9	−1·4	
1210	7·5	20. 21. 0·6	2	8. 18. 50·0	2	20. 19. 0·2	+1·2	8. 13. 39·4	+0·4	
1212	7·0	20. 23. 26·6	4	5. 50. 59·7	3	20. 20. 0·3	−0·1	5. 45. 45·8	+0·8	
1215	8·8	20. 26. 8·7	2	4. 45. 33·2	2	20. 21. 37·5	0·0	4. 40. 15·2	−6·1	Schwerd's Decls. disagree.
1216	9·0	20. 26. 41·4	1	6. 20. 41·9	1	20. 23. 40·9	+1·1	6. 15. 21·4	−0·4	
1220	9·0	20. 31. 2·4	1	7. 30. 46·2	1	20. 28. 46·8	+0·5	7. 25. 16·8	+2·2	
1221	6·0	20. 31. 21·1	11	1. 12. 38·8	11	20. 8. 32·5	−2·6	1. 7. 27·9	−0·5	
1222	8·3	20. 32. 50·7	2	5. 27. 37·2	2	20. 29. 12·5	−0·3	5. 22. 5·7	−0·8	
1223	8·0	20. 33. 6·8	3	6. 0. 53·6	3	20. 29. 57·3	+1·6	5. 55. 21·1	−1·0	
1225	7·5	20. 33. 56·9	2	8. 12. 15·0	2	20. 32. 2·1	+1·3	8. 6. 39·8	+2·0	
1226	7·3	20. 34. 36·4	2	5. 25. 54·0	2	20. 30. 58·5	−1·2	5. 20. 19·2	−1·3	
1227	8·5	20. 35. 10·8	2	7. 43. 44·8	2	20. 33. 4·4	−0·9	7. 38. 7·5	+0·6	
1229	6·8	20. 37. 18·3	2	9. 9. 25·8	2	20. 35. 46·6	+1·1	9. 3. 44·1	−1·8	
1230	6·8	20. 38. 38·1	2	9. 10. 22·3	2	20. 37. 7·6	+0·9	9. 4. 38·1	−1·4	
1233	9·0	20. 39. 42·3	1	1. 39. 13·5	1	20. 24. 11·3	+4·0	1. 33. 40·0	+1·4	
1235	7·5	20. 40. 24·8	2	7. 24. 37·2	2	20. 38. 13·2	−0·4	7. 18. 50·4	−1·4	
1236	8·5	20. 43. 4·7	1	8. 40. 4·7	1	20. 41. 26·8	+1·5	8. 34. 12·6	−1·6	
1238	6·5	20. 45. 31·2	2	6. 58. 50·9	2	20. 43. 10·4	+0·9	6. 52. 55·1	+1·9	
1239	7·5	20. 46. 0·9	3	8. 36. 27·9	3	20. 44. 23·7	+0·2	8. 30. 30·5	−0·3	
1243	8·2	20. 49. 57·4	3	2. 37. 4·6	3	20. 41. 16·8	+0·1	2. 31. 6·4	+0·7	
1244	8·8	20. 52. 4·9	2	1. 24. 56·3	2	20. 34. 22·2	+14·9	1. 19. 2·2	−3·1	Proper motion.
1247	8·5	20. 53. 24·2	1	7. 35. 21·9	1	20. 51. 28·1	+1·2	7. 29. 11·9	−0·7	
1248	6·0	20. 54. 29·6	3	8. 6. 44·5	3	20. 52. 47·4	+1·0	8. 0. 32·4	+1·2	
1250	8·5	20. 59. 52·8	2	6. 55. 11·0	2	20. 57. 42·7	−0·1	6. 48. 50·2	−0·9	
1251	9·0	21. 0. 1·8	2	4. 59. 4·5	2	20. 56. 26·7	+0·4	4. 52. 44·6	+0·2	
1253	8·0	21. 0. 49·5	2	6. 2. 12·7	2	20. 58. 8·4	+0·6	5. 55. 50·7	0·0	
1254	8·5	21. 4. 16·1	2	8. 52. 20·4	2	21. 2. 57·1	−0·2	8. 45. 51·6	−1·7	
1255	7·7	21. 4. 59·2	3	6. 43. 59·0	3	21. 2. 48·0	+0·6	6. 37. 29·7	−3·8	
1257	8·8	21. 10. 1·5	2	7. 42. 10·4	2	21. 8. 22·1	+0·6	7. 35. 32·5	−1·4	
1262	9·0	21. 14. 43·2	2	8. 25. 7·7	2	21. 13. 23·5	+0·9	8. 18. 22·1	−1·4	
1263	8·8	21. 14. 57·4	2	8. 21. 35·3	2	21. 13. 36·7	−0·4	8. 14. 49·4	+0·5	
1264	9·0	21. 15. 58·5	1	4. 49. 18·9	1	21. 12. 35·0	+1·1	4. 42. 33·0	−2·0	
1271	8·0	21. 24. 34·3	2	8. 58. 33·2	2	21. 23. 32·5	+0·3	8. 51. 32·3	−1·5	
1272	8·0	21. 25. 46·2	2	8. 43. 12·5	2	21. 24. 41·1	−0·1	8. 36. 9·9	−1·4	

Schwerd's positions brought up to 1855·0.

No	Mag.	R.A. 1828·0.	Obs.	N.P.D. 1828·0.	Obs.	R.A. 1855·0.	C—S.	N.P.D. 1855·0.	C—S.	Notes.
		h m s		° ′ ″		h m s	s	° ′ ″	″	
1273	7·5	21. 26. 56·5	2	6. 28. 31·2	2	21. 24. 59·6	+0·8	6. 21. 27·5	−1·1	
1275	8·8	21. 31. 30·1	2	7. 46. 20·8	2	21. 30. 11·6	+0·5	7. 39. 10·0	+0·5	
1276	7·3	21. 32. 3·9	4	3. 41. 25·6	4	21. 27. 40·3	+0·5	3. 34. 16·2	−0·3	
1277	9·0	21. 33. 53·6	2	7. 28. 26·0	2	21. 32. 30·8	+0·8	7. 21. 11·9	+0·2	
1278	9·0	21. 35. 3·5	2	7. 11. 26·6	2	21. 33. 35·1	−0·1	7. 4. 10·9	−1·9	
1279	9·0	21. 36. 0·2	2	7. 19. 38·0	2	21. 34. 36·1	−0·2	7. 12. 20·9	−0·8	
1280	8·9	21. 39. 34·4	5	6. 55. 26·7	5	21. 38. 4·1	+1·4	6. 48. 4·8	−2·0	
1281	8·3	21. 43. 36·8	6	6. 49. 48·6	6	21. 42. 8·4	+1·1	6. 42. 21·2	−0·7	
1282	—	21. 44. 50·0	1	7. 51. 46·2	1	21. 43. 45·9	−0·2	7. 44. 16·9	+3·4	
1284	9·0	21. 49. 58·0	3	6. 28. 51·7	3	21. 48. 27·6	−0·3	6. 21. 16·1	+0·4	
1287	9·0	21. 51. 12·7	3	6. 28. 4·7	3	21. 49. 43.5	+5·6	6. 20. 27·5	−1·2	
1289	9·0	21. 51. 44·0	1	7. 43. 33·4	1	21. 50. 44·0	−0·1	7. 35. 55·2	−2·2	Corrected by Oeltzen.
1291	7·0	21. 53. 58·9	4	6. 46. 8·3	4	21. 52. 40·7	+1·7	6. 38. 27·5	−0·2	
1292	9·0	21. 54. 38·2	1	4. 14. 45·9	1	21. 51. 41·7	+0·5	4. 7. 5·3	+0·4	
1294	8·8	21. 56. 12·6	2	3. 47. 28·9	2	21. 52. 47·0	+1·4	3. 39. 46·6	+0·7	
1296	9·0	21. 58. 31·5	1	4. 21. 46·2	1	21. 55. 49·2	+2·3	4. 14. 0·7	+3·7	
1297	8·5	21. 58. 47·9	1	6. 46. 49·0	1	21. 57. 35·5	+0·3	6. 39. 2·3	+0·2	
1298	7·3	22. 3. 56·9	5	7. 57. 37·2	5	22. 3. 13·2	−1·7	7. 49. 44·1	+1·8	
1299	7·8	22. 4. 3·8	3	7. 57. 33·9	3	22. 3. 20·2	−1·9	7. 49. 40·7	+2·0	
1300	—	22. 4. 3·3	2	7. 20. 16·0	2	22. 3. 8·7	+0·5	7. 12. 22·9	+1·7	
1301	9·0	22. 10. 32·6	2	8. 1f. 11·3	2	22. 9. 59·0	+0·1	8. 3. 10·8	−0·7	
1302	9·0	22. 10. 55·2	2	3. 2. 10·7	2	22. 6. 54·0	+3·0	2. 54. 11·6	+0·7	
1303	9·0	22. 14. 51·0	3	7. 16. 21·6	3	22. 14. 7·2	−0·1	7. 8. 16·6	−1·0	
1305	9·0	22. 17. 34·8	2	5. 26. 54·6	2	22. 16. 11·0	+2·4	5. 18. 47·1	−2·4	
1307	—	22. 23. 21·9	2	6. 21. 47·9	2	22. 22. 30·4	0·0	6. 13. 34·3	−0·5	
1308	7·0	22. 24. 13·0	1	8. 56. 16·4	1	22. 24. 2·0	+1·6	8. 48. 1·7	−0·6	
1309	5·5	22. 25. 44·5	8	4. 45. 43·7	8	22. 24. 10·3	+2·1	4. 37. 28·2	−2·3	
1310	6·5	22. 26. 19·3	4	4. 38. 50·4	4	22. 24. 41·7	+0·6	4. 30. 34·3	−0·3	
1312	9·0	22. 29. 32·0	1	8. 43. 40·6	1	22. 29. 23·7	+1·1	8. 35. 20·9	−0·8	
1313	8·0	22. 30. 4·6	3	5. 49. 7·0	3	22. 29. 9·8	+1·1	5. 40. 47·1	−2·1	
1314	8·0	22. 34. 6·1	4	2. 47. 46·8	4	22. 30. 46·4	−0·2	2. 39. 24·4	−0·7	
1316	—	22. 37. 14·5	2	8. 50. 7·0	2	22. 37. 14·8	+0·5	8. 41. 40·5	−0·5	
1319	8·0	22. 42. 39·9	2	9. 0. 24·0	2	22. 42. 46·9	−0·4	8. 51. 53·1	+2·2	
1320	8·0	22. 43. 7·8	1	8. 24. 36·9	1	22. 43. 9·7	+0·8	8. 16. 5·6	+1·8	
1321	8·0	22. 44. 12·3	2	7. 38. 5·2	2	22. 44. 6·9	0·0	7. 29. 33·2	−0·8	
1322	8·5	22. 47. 19·2	1	3. 36. 55·8	1	22. 45. 38·4	−2·7	3. 28. 22·0	+1·7	
1323	5·8	22. 47. 54·3	8	7. 45. 32·9	8	22. 47. 54·6	+0·8	7. 36. 58·0	−2·7	
1324	8·5	22. 48. 2·1	1	8. 58. 21·1	1	22. 48. 14·0	+1·0	8. 49. 46·1	+1·2	
1325	7·5	22. 48. 55·4	1	7. 13. 12·0	1	22. 48. 50·4	−1·8	7. 4. 36·4	−3·8	
1326	7·0	22. 50. 56·8	1	6. 8. 5·8	1	22. 50. 38·7	+1·0	5. 59. 28·9	+5·2	
1328	8·0	22. 52. 48·2	1	8. 58. 53·1	1	22. 53. 4·7	+0·6	8. 50. 14·7	+3·2	
1330	7·8	22. 54. 21·7	3	5. 52. 15·9	3	22. 54. 4·0	+0·1	5. 43. 36·6	0·0	
1331	7·0	22. 54. 38·0	2	5. 32. 55·3	2	22. 54. 14·7	+0·6	5. 24. 15·9	−4·0	
1332	6·0	22. 55. 27·1	1	6. 34. 27·3	1	22. 55. 22·0	+1·3	6. 25. 47·2	−0·4	
1334	8·5	22. 56. 16·5	1	7. 52. 7·1	1	22. 56. 27·2	+0·3	7. 43. 26·4	+0·5	
1336	8·5	23. 0. 32·0	2	9. 4. 15·2	2	23. 0. 56·7	−0·1	8. 55. 31·8	−2·0	
1339	8·0	23. 6. 19·5	2	8. 21. 4·8	2	23. 6. 45·1	+0·7	8. 12. 18·1	−4·7	
1340	9·0	23. 6. 56·9	2	8. 33. 38·0	2	23. 7. 24·5	+1·0	8. 24. 50·9	−0·4	
1343	8·5	23. 7. 37·3	2	9. 7. 1·1	2	23. 8. 9·1	+0·1	8. 58. 13·6	−0·1	
1344	9·0	23. 7. 44·2	1	5. 12. 5·9	1	23. 7. 36·1	+0·3	5. 3. 18·5	+1·1	
1345	8·5	23. 9. 1·5	2	9. 9. 9·2	2	23. 9. 34·9	+1·0	9. 0. 21·0	−1·8	
1346	8·5	23. 9. 2·1	2	8. 32. 41·8	2	23. 9. 31·8	+0·9	8. 23. 53·6	−2·5	
1347	8·0	23. 12. 22·0	2	6. 41. 44·3	2	23. 12. 41·0	+0·2	6. 32. 54·5	−0·2	
1348	9·0	23. 13. 58·7	1	8. 45. 58·9	1	23. 14. 34·8	+0·6	8. 37. 8·2	+1·0	
1349	7·8	23. 14. 9·6	2	8. 37. 6·3	2	23. 14. 35·9	+0·3	8. 28. 15·6	−0·9	
1350	8·5	23. 16. 13·8	2	9. 5. 33·8	2	23. 16. 53·9	+0·8	8. 56. 42·1	+1·4	
1351	9·0	23. 18. 55·8	2	4. 53. 11·1	2	23. 19. 2·4	+0·8	4. 44. 18·3	+0·7	
1357	7·0	23. 23. 59·3	3	4. 31. 45·3	3	23. 24. 9·9	+0·8	4. 22. 50·5	−0·7	
1361	9·0	23. 25. 25·1	1	6. 23. 59·4	1	23. 25. 59·5	−0·3	6. 15. 4·0	−0·1	
1362	7·0	23. 25. 27·1	2	4. 56. 22·7	2	23. 25. 46·7	+1·6	4. 47. 27·4	−3·0	
1363	7·0	23. 26. 56·7	2	4. 23. 27·8	2	23. 27. 11·1	+1·5	4. 14. 32·0	−1·9	
1364	6·0	23. 27. 45·4	6	3. 38. 29·5	6	23. 27. 47·2	+2·3	3. 29. 33·4	−1·0	
1367	7·3	23. 29. 18·9	2	4. 46. 16·6	2	23. 29. 43·5	+1·0	4. 37. 20·0	−0·8	
1370	—	23. 31. 2·0	1	7. 44. 53·1	1	23. 31. 51·6	−1·0	7. 35. 55·9	−3·1	
1374	8·0	23. 32. 9·7	2	5. 47. 3·5	2	23. 32. 49·4	+1·1	5. 38. 6·0	−1·1	
1377	9·0	23. 34. 54·4	1	8. 4. 45·6	1	23. 35. 49·8	+1·0	7. 55. 47·3	+2·2	
1379	8·0	23. 37. 24·6	2	5. 29. 7·6	2	23. 38. 10·7	−1·7	5. 20. 8·7	−1·8	
1380	9·0	23. 38. 39·8	1	8. 8. 52·3	1	23. 39. 39·6	+0·9	7. 59. 53·1	+1·1	
1383	9·0	23. 41. 5·7	1	8. 10. 7·2	1	23. 42. 8·3	+3·7	8. 1. 7·5	+2·1	
1384	7·5	23. 41. 34·8	2	5. 52. 38·5	2	23. 42. 30·0	−1·0	5. 43. 38·7	−1·0	
1385	9·0	23. 42. 1·1	2	2. 36. 49·8	2	23. 42. 20·8	+3·1	2. 27. 50·0	−2·9	A misprint in Oeltzen has been correeted.
1386	—	23. 48. 33·0	2	7. 46. 0·9	2	23. 49. 43·3	+1·2	7. 37. 0·1	−2·2	
1388	7·0	23. 51. 41·5	2	4. 15. 4·7	2	23. 52. 47·7	+2·2	4. 6. 3·6	−2·2	
1391	8·0	23. 54. 5·0	2	3. 55. 31·1	2	23. 55. 15·4	+0·4	3. 46. 29·8	−0·3	
1392	—	23. 54. 6·2	2	7. 59. 4·7	2	23. 55. 23·2	+0·3	7. 50. 3·4	−1·5	
1394	8·3	23. 57. 46·1	3	5. 33. 10·9	3	23. 59. 6·5	+1·8	5. 24. 9·5	−0·3	
1395	8·0	23. 58. 8·0	3	4. 10. 10·0	3	23. 59. 28·3	+9·3	4. 1. 8·6	−1·0	Proper motion.

There is one star in Oeltzen's Catalogue, No. 515, of the 7th magnitude, observed once only by Schwerd, the position of which for 1855·0 is

R.A.... $8^h.\ 21^m.\ 43^s{\cdot}1$ N.P.D..... $6°.\ 46'.\ 58''{\cdot}1$,

which I have no observation of, and do not find to exist. Mr. Oeltzen finds no error in his reduction on re-examination.

Positions of Stars observed at Markree, brought up to 1855·0.

No.	Obs.	R.A. 1842·0.	N.P.D. 1842·0.	R.A. 1855·0.	R–M.	N.P.D. 1855·0.	R.–M.
		h m s	° ′ ″	h m s	s	° ′ ″	″
1	7	0. 9. 49·0	1. 25. 53·4	0. 11. 1·4	+ 0·8	1. 21. 32·9	0·0
2	6	1. 45. 36·0	1. 34. 40·1	1. 51. 9·4	− 1·6	1. 30. 48·0	0·0
3	5	1. 49. 54·4	1. 10. 18·7	1. 57. 30·2	+ 6·4	1. 6. 29·4	+1·6
4	5	1. 54. 11·3	2. 1. 5·5	1. 58. 55·3	− 2·3	1. 57. 17·7	+0·8
5	7	2. 10. 54·0	1. 41. 26·8	2. 17. 4·9	+ 2·1	1. 37. 49·3	−1·5
6	5	5. 32. 5·3	0. 22. 12·8	6. 17. 44·9	− 7·0	0. 22. 7·0	+1·7
7	7	6. 46. 8·4	0. 57. 8·1	7. 3. 35·4	+ 4·2	0. 58. 10·0	+0·5
8	5	7. 10. 48·8	1. 10. 46·5	7. 24. 36·9	+ 4·9	1. 12. 13·3	+2·7
9	5	7. 34. 54·9	1. 38. 3·9	7. 44. 42·1	+ 2·9	1. 39. 53·9	+0·1
10	5	7. 35. 38·8	1. 11. 6·9	7. 48. 46·9	+ 4·1	1. 12. 59·4	+2·3
11	5	9. 42. 25·1	1. 57. 2·2	9. 47. 44·1	+ 1·1	2. 0. 39·1	−1·6
12	5	9. 52. 38·4	1. 20. 13·9	9. 59. 32·9	− 0·1	1. 23. 57·5	+0·5
13	6	10. 5. 57·5	1. 53. 57·9	10. 10. 38·8	+ 0·5	1. 57. 48·3	+1·4
14	6	10. 9. 9·1	0. 24. 3·1	10. 26. 20·5	+ 0·5	0. 27. 58·5	+0·4
15	6	10. 48. 37·7	0. 11. 53·7	11. 8. 11·9	+15·4	0. 16. 5·3	+0·3
16	6	10. 49. 4·7	1. 30. 17·6	10. 52. 56·4	+ 1·1	1. 34. 26·6	+2·7
17	6	11. 32. 47·0	0. 57. 24·4	11. 35. 20·2	+0·6	1. 1. 43·5	+1·6
18	6	11. 59. 43·1	0. 29. 23·6	12. 0. 22·6	—	0. 33. 43·3	—
19	5	12. 14. 25·0	1. 25. 27·6	12. 14. 22·1	0·0	1. 29. 47·8	−1·0
20	5	12. 15. 41·4	1. 20. 35·2	12. 15. 32·2	− 1·5	1. 24. 55·3	+0·7
21	6	12. 22. 27·8	1. 15. 52·8	12. 21. 53·8	+ 2·0	1. 20. 12·3	+0·9
22	5	13. 7. 51·0	0. 27. 31·0	12. 59. 18·2	+ 2·0	0. 31. 41·8	+0·9
23	6	13. 39. 44·9	0. 23. 25·8	13. 25. 2·8	+ 3·2	0. 27. 25·8	−1·5
24	5	14. 28. 40·9	1. 29. 19·8	14. 22. 51·2	− 1·5	1. 32. 49·6	+1·2
25	5	14. 35. 51·4	1. 23. 53·3	14. 29. 20·2	+ 0·9	1. 27. 18·4	−1·4
26	6	14. 37. 21·8	1. 52. 15·8	14. 32. 33·7	+ 1·5	1. 55. 39·2	+1·4
27	5	15. 39. 56·9	1. 23. 53·9	15. 31. 10·2	+ 0·8	1. 26. 27·6	+1·3
28	6	15. 59. 27·6	0. 16. 33·6	15. 14. 43·1	+ 1·8	0. 19. 6·6	−1·6
29	6	16. 46. 8·8	1. 31. 2·7	16. 36. 35·6	+ 0·4	1. 32. 30·4	+1·0
30	6	17. 44. 50·7	0. 41. 5·8	17. 21. 34·7	+ 3·4	0. 41. 36·3	+1·1
31	5	18. 25. 2·2	1. 19. 1·7	18. 13. 6·9	+ 1·8	1. 18. 40·0	−0·9
32	5	18. 31. 12·2	1. 25. 46·7	18. 20. 18·0	− 0·9	1. 25. 17·5	0·0
33	6	18. 46. 26·1	1. 17. 31·6	18. 34. 23·5	+ 0·2	1. 16. 45·8	−1·8
34	5	19. 4. 40·1	1. 9. 17·0	18. 51. 18·3	− 3·2	1. 8. 11·7	+0·7
35	6	19. 12. 21·0	1. 5. 18·0	18. 58. 14·4	− 4·0	1. 4. 4·7	−0·2
36	5	19. 44. 18·0	1. 57. 45·5	19. 37. 15·3	+ 0·2	1. 55. 54·5	−0·4
37	6	20. 13. 57·5	0. 47. 1·4	19. 56. 4·1	+ 1·0	0. 44. 46·0	−1·9
38	5	20. 43. 25·3	1. 21. 49·8	20. 34. 34·2	+ 2·9	1. 19. 3·0	−3·9
39	5	20. 59. 26·2	1. 58. 21·9	20. 53. 59·5	− 0·3	1. 55. 20·2	−1·2
40	7	21. 2. 28·2	0. 16. 53·9	20. 13. 28·8	+ 0·5	0. 14. 7·1	+0·1
41	6	21. 4. 20·7	1. 42. 18·5	20. 58. 3·6	+ 2·9	1. 39. 13·1	−0·4
42	5	21. 45. 39·8	1. 59. 8·4	21. 41. 34·4	− 1·7	1. 55. 32·5	−2·9
43	5	22. 14. 9·1	1. 54. 11·3	22. 10. 48·4	− 2·5	1. 50. 18·7	−3·3
44	5	22. 34. 40·1	1. 20. 0·4	22. 30. 35·0	+ 2·9	1. 15. 58·4	0·0
45	8	22. 36. 0·1	0. 16. 0·8	22. 7. 5·4	−25·5	0. 12. 3·3	−0·7
46	5	22. 46. 2·9	1. 34. 15·0	22. 43. 13·6	+ 0·8	1. 30. 8·3	−1·3
47	5	23. 5. 50·3	1. 29. 15·9	23. 3. 46·7	− 1·4	1. 25. 2·7	−5·2
48	6	23. 36. 22·8	1. 37. 35·7	23. 35. 57·8	+ 0·7	1. 33. 16·4	−1·1
49	7	23. 36. 47·4	1. 40. 58·9	23. 36. 25·7	+ 2·2	1. 36. 39·6	+1·4
50	5	23. 40. 38·7	1. 40. 34·6	23. 40. 27·2	+ 2·2	1. 36. 14·8	−1·4

Star (18) was seen at Redhill, but not observed on the meridian from its extreme faintness.

circumpolar stars

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